

GROUNDWATER MONITORING REPORT

ANNUAL EVENT

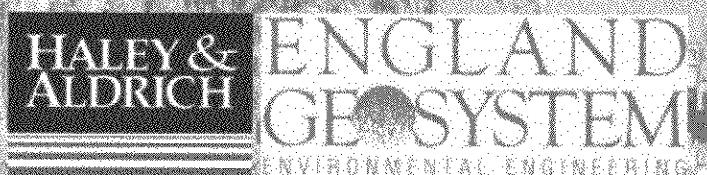
JANUARY/FEBRUARY 2001

**Boeing Realty Corporation
Former C-6 Facility
Los Angeles, California**

Prepared for Submittal to

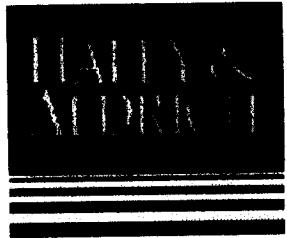
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Long Beach, California 90806**

Prepared by



**GROUNDWATER MONITORING
REPORT ANNUAL EVENT
JANUARY/FEBRUARY 2001**

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3 July 2001
C6-BRC-T-01-012

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

 **BOEING** Attention: John Geroch

Subject: **GROUNDWATER MONITORING REPORT, ANNUAL EVENT FOR
BOEING REALTY CORPORATION, FORMER C-6 FACILITY,
19503 SOUTH NORMANDIE AVENUE, LOS ANGELES, CA**

Dear Mr. Geroch:

Please find enclosed for your review, a copy of the subject document prepared by Haley & Aldrich, Inc. for Boeing Realty Corporation.

If you have any questions concerning this document, please contact the undersigned at 562-593-8623.

Sincerely,



Stephanie Sibbett
Boeing Realty Corporation

Cc: Mario Stavale, Boeing Realty Corporation
Scott Lattimore, Long Beach Division

enclosure

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1.0 INTRODUCTION

England Geosystem, Inc. (England Geosystem) in association with Haley & Aldrich Inc. (H&A) has prepared this report on behalf of Boeing Realty Corporation (BRC) to document the *Groundwater Monitoring Report Annual Event* (2001 Annual event) conducted at the BRC Former C-6 Facility in Los Angeles, California.

The 2001 Annual event at the Former C-6 Facility was conducted from January 15 to February 3, 2001. Due to unusual chemical concentration results at TMW-10 and difficulty locating TMW-13 supplemental sampling was conducted on May 10, 2001. The program including supplemental sampling:

- Monitoring groundwater levels in 33 wells.
- Sampling of groundwater from 33 wells and subsequent analysis for Volatile Organic Compounds (VOCs) by US Environmental Protection Agency (EPA) Method 8260B, Title 22 Metals by EPA Method 6010B, Mercury by EPA Method 7470A, and Hexavalent Chromium by EPA Method 7196A.
- Field bioattenuation monitoring in 15 wells for dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, pH, and conductivity.
- Laboratory bioattenuation monitoring in 15 wells for Total Alkalinity by EPA Method 2320B; Chloride, Nitrate, Nitrite, and Sulfate by EPA Method 300.0A; Total Organic Carbon (TOC) by EPA Method 415.1; Ethane, Ethene, and Methane by EPA Method RSK-175; Ferrous Iron by EPA Method 3500-FE D; Dissolved Metals and Cations by EPA Method 6010B; and Mercury by EPA 7470A.

This report provides documentation and discussion of the 2001 Annual event.

2.0 SITE BACKGROUND

2.1 Site Location

The BRC Former C-6 Facility (Site) is located at 19503 South Normandie Avenue in Los Angeles, California in an area located between the cities of Torrance to the west and Carson to the east. A Site location map is included as Figure 1 and a Site plan map as Figure 2. The Site occupies approximately 159 acres.

The Site is bounded on the north by 190th Street and to the east by Normandie Avenue. To the west of the Site is the former Industrial Light Metals (ILM) facility and to the south, the former Montrose facility and a residential area.



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2.2 Site History

For 40 years (1952-1992) the Site had reportedly been used for the manufacturing of aircraft and aircraft parts. Prior to 1952, industrial uses of the Site included aluminum and steel production, and before 1940 the Site was reportedly farmland. A limited amount of assembly and activities related to warehousing continued through mid-2000. Currently the Site is closed and is undergoing building demolition. Various stages of redevelopment activities are underway at the Site.

Groundwater investigation activities at the Site began in 1987. Since then, a total of 40 groundwater monitoring wells have been installed at the Site. Prefixes of Site groundwater monitoring wells include BL, DAC, TMW, WCC and XMW. Nine of the 40 wells have been abandoned as a result of redevelopment activities. Table 1 is a compilation of the groundwater monitoring well details for reference purposes.

2.3 Regional Geology and Hydrogeology

The description of the geology and hydrogeology of the region surrounding the Site is drawn from reports published by the U.S. Geological Survey (USGS) (Poland and others, 1959) and the California Department of Water Resources (DWR, 1961). Reference is also made to previous reports prepared by Kennedy/Jenks Consultants for the Site.

The Site is located on a broad plain at an elevation of about 50 feet above mean sea level (MSL). The DWR and USGS define this area as the Torrance Plain, a Pleistocene-age marine surface and a subdivision of the West Coast Basin/Coastal Plain of Los Angeles and Orange Counties. The ground surface in this area is generally flat with an eastward gradient of about 20 feet per mile (less than one-half percent). Surface drainage is generally toward the Dominguez Channel, about a mile to the east. The Dominguez Channel, in turn, flows southeastward toward the Los Angeles and Long Beach Harbors in San Pedro Bay.

The West Coast Basin includes a thick sequence (up to 13,000 feet) of marine and continental sediments (Miocene to Recent) deposited in a broad synclinal depression over a basement complex of igneous and metamorphic rocks. The uppermost sequence of deposits of interest within the West Coast Basin is as follows:

Youngest	Active Dune Sand
↑	Alluvium
	Older Dune Sand
↓	Lakewood Formation (upper Pleistocene)
Oldest	San Pedro Formation (lower Pleistocene)

The dune sands and alluvium are not present at the Site. The Lakewood Formation is mapped at the surface in the Site vicinity.



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The Lakewood Formation (DWR, 1961), includes all of the upper Pleistocene sediments in the Los Angeles Coastal Plain area. The deposits are of both marine and continental origin, representing stream transport and sedimentation along the Pleistocene marine plain. In the Site area, the Lakewood Formation may include the Semi-perched aquifer, the Bellflower Aquiclude, and the Gage Aquifer. The Semi-perched aquifer includes deposits described as Terrace Cover (Poland and others, 1959). Based on correlations of Site stratigraphic data to data from adjacent sites, it appears that the Semi-perched aquifer is absent at the Site. The Bellflower Aquiclude is a heterogeneous mixture of continental, marine, and wind-blown sediments, mainly consisting of clays with sandy and gravelly lenses (DWR, 1961). The base of the Bellflower Aquiclude is about 100 feet below sea level or about 150 feet below ground surface (bgs) in the Site area. The Gage Aquifer is a water-bearing zone of fine to medium sand and gravel confined by the Bellflower Aquiclude. It is reported to be about 40 feet thick in the Site area.

The Lakewood Formation is underlain by the Lower Pleistocene San Pedro Formation, which continues to about 1,000 feet bgs in the Site area. Major water-bearing zones within the San Pedro Formation are the Lynwood Aquifer and the Silverado Aquifer. These are reported to be about 300 and 500 feet bgs respectively, in the Site area (DWR, 1961). The Silverado Aquifer is an important groundwater source in the Coastal Plain and is considered a source of drinking water (DWR, 1961).

2.4 Site Geology and Hydrogeology

2.4.1 Site Geology

Groundwater monitoring wells and soil borings drilled at the Site have encountered the Lakewood Formation. The majority of the monitoring wells extend to approximately 90 feet bgs. Two monitoring wells extended to 140 feet bgs. The top 20 to 50 feet below the site are mainly fine-grained soils (predominantly silts and clays) that become thicker to the east. A sandy zone that dips downward to the east underlies the fine-grained soils. The sandy zone is generally 80 to 100 feet thick and contains discontinuous layers of fine-grained sediment that also dip down to the east. Although the fine-grained layers within the sandy unit are discontinuous, there are two separate fine-grained layers that are relatively continuous. Beneath some areas of the Site, the discontinuous fine-grained units overlap. The sandy unit is underlain by another fine-grained zone at approximately 110 to 120 feet bgs.

2.4.2 Site Hydrogeology

Groundwater conditions at the site are known from previous investigations and from the quarterly groundwater monitoring program (Kennedy/Jenks Consultants, 2000a). Groundwater samples from monitoring wells at the Site have been collected and analyzed on a regular basis since 1987. The uppermost groundwater at the Site appears to be under water table conditions at depths of 60 to 70 feet bgs. Regionally, this uppermost groundwater appears to be within relatively permeable sediments of the Bellflower Aquiclude. Monitoring wells at the Site are completed in two zones. Most of the wells are completed at or near the water table, at depths of



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about 55 to 90 feet. Two deeper wells, WCC-1D and WCC-3D, were completed in a deeper zone at about 115 to 140 feet. Well WCC-1D has since been abandoned (Table 1).

The following primary hydrogeologic units are recognized in the general vicinity of the Site:

FORMATION	HYDROSTRATIGRAPHIC UNIT	
<i>Lakewood Formation (Upper Pleistocene)</i>	Bellflower Aquitard	Upper Bellflower Aquitard (UBF)
		Middle Bellflower Sand (MBF, MBFM, MBFC, MBFB/C)
		Lower Bellflower Aquitard (LBF)
	Gage Aquifer (GAGE)	
<i>San Pedro (Lower Pleistocene)</i>	Gage Lynwood Aquitard (GLA)	
	Lynwood Aquifer (LYNWOOD)	
	Unnamed Aquitard	
	Silverado Aquifer	

The relatively fine-grained Upper Bellflower Aquitard (UBF) is continuous across the area, but thins to the northwest. The UBF is comprised of laminated to massive yellowish brown muds with local sands and fossiliferous zones. The UBF is found at the surface beneath the Site and is approximately 25 feet thick.

The Middle Bellflower Aquitard (MBF) is a massive, light yellowish brown, fine to medium sand with local muddy zones. An extensive mud layer referred to as the Middle Bellflower Mud (MBFM) locally interrupts this sand. Where divided, the sand subunits are referred to as the B-Sand (MBFB) and C-Sand (MBFC). The MBFM is discontinuous across the area and is comprised of laminated silts and layered silts and very fine sands. Deeper borings at the former ILM facility and the Site do not always encounter the MBFM. The MBFB is found at an approximate depth of 25 feet bgs at the Site and is generally from 25 feet to 40 feet thick. The MBFM is found at different depths across the Site ranging from an approximate minimum depth of 40 feet bgs to an approximate maximum depth of 80 feet bgs. The MBFC is found at an approximate depth of 75 to 90 feet bgs at the Site.

The fine-grained Lower Bellflower Aquitard (LBF) appears to be continuous across the area. It occurs at an approximate depth of 110 to 120 feet bgs and ranges in thickness from 10 to 25 feet thick. The LBF separates the Bellflower sands from the underlying Gage Aquifer. The Gage Aquifer in the Site vicinity is predominately sand and ranges in thickness from 40 to 78 feet. No monitoring wells are drilled into the Gage Aquifer at the Site.



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3.0 GROUNDWATER SAMPLING PROCEDURES

3.1 Monitoring Plans

The 2001 Annual event at the Site was conducted from January 15 to February 3, 2001, by Tait Environmental Management, Inc. (TEM) field personnel. England Geosystem personnel assisted TEM during the natural attenuation (NA) sampling portions of the program. Work was conducted in accordance with the following documents:

- *Groundwater Monitoring Work Plan 2000* by Kennedy/Jenks Consultants, dated December 15, 2000.
- *Statement of Work for Evaluation of Natural Attenuation at Boeing Realty Corporation's C-6 Facility* by Exponent, dated December 15, 2000.
- *Groundwater Monitoring Services Standard Operating Procedures, Boeing Realty Corporation, Former C-6 Facility*, prepared by Tait Environmental Management, dated January 11, 2001.

Natural Attenuation sampling was conducted according to:

- *Standard Operating Procedures for Measuring Natural Attenuation Parameters at Boeing Realty Corporation Former C-6 Facility, Revision 1.0*, prepared by England Geosystem Inc. and Haley & Aldrich, dated January 9, 2001.

The following summarizes the activities performed during the Annual Groundwater Monitoring and Sampling event.

- **Groundwater Level Monitoring**

- Water levels were measured in 32 Site groundwater wells on January 15, 2001 (Table 2). Supplemental water levels were measured on May 10, 2001 bringing the total number of monitored wells to 33.
- TMW-13 was not gauged, as it was buried by demolition debris and could not be located. The well was subsequently accessed on May 10, 2001. This data is included on the hydrographs (Figure 4c) and on Table 2.
- A groundwater contour map was generated based on all of the measured groundwater elevations.

- **Sampling and Analysis**

- Monitoring of 32 wells that were sampled and analyzed for VOCs by EPA Method 8260B, Title 22 Metals by EPA Method 6010B, Mercury by EPA Method 7470A, and Hexavalent Chromium by EPA Method 7196A.
- Well TMW-13 was sampled on May 10, 2001 since during the initial filed activities it was buried by demolition debris and could not be located. Well TMW-10 was re-



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sampled on May 10, 2001 because of suspect chemical concentration results obtained during the initial field sampling in January, 2001.

- Laboratory bioattenuation monitoring was conducted in 15 wells for Total Alkalinity by EPA Method 2320B; Chloride, Nitrate, Nitrite, and Sulfate by EPA Method 300.0A; TOC by EPA Method 415.1; Ethane, Ethene, and Methane by EPA SOP-175; Ferrous Iron by EPA 3500-FE D; Dissolved Metals and Cations by EPA Method 6010B; and Mercury by EPA Method 7470A.

• **Field Bioattenuation Monitoring**

- Field bioattenuation monitoring was conducted in 15 wells for DO, ORP, temperature, pH, and conductivity.

Field activities at the site were conducted under a Health and Safety Plan prepared for this project as follows:

- *Health and Safety Plan Prepared for Boeing Realty Corporation, Former C-6 Facility, Los Angeles, California*, prepared by Tait Environmental Management, dated January 8, 2001.

The Health and Safety Plan describes the safety requirements for the sampling of soil and groundwater at the subject Site.

3.2 Field Procedures

Field procedures for this sampling event are outlined in the documents listed previously in Section 3.1.

3.3 Quality Assurance/Quality Control Samples

This report is based on data that has undergone formal validation procedures. Laboratory validation services were performed by Laboratory Data Consultants, Inc. (LDC). Two levels of data validation were performed, Tier 2 and Tier 3 validation. The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October, 1999). Ten percent of the data (3 samples) were subjected to Tier 3 analysis. An additional 20% (7 samples) of the data were validated according to Tier 2 criteria. The QA/QC and data validation report is included as Appendix C.

3.4 Sample Naming

Groundwater samples were labeled in the following format in accordance with the *Groundwater Monitoring Work Plan 2000* (Kennedy/Jenks Consultants, 2000):



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TMW-9-W-051000

where:

TMW-9 indicates the groundwater monitoring well number
W indicates the type of sample where:

W = standard water sample
D = duplicate sample
R = equipment rinsate sample
B = travel blank sample

051001 = date the sample was collected (mmddyy)

For example, TMW-9-W-051000 is a sample that was collected from temporary groundwater monitoring well TMW-9, and is a standard water sample collected on 10 May 2000.

4.0 MONITORING AND SAMPLING RESULTS

4.1 Groundwater Level Monitoring

Field sheets for the data collected by TEM are included in Appendix A and a summary of the groundwater elevations for the 2001 Annual event is presented in Table 2.

During the 2001 Annual event, groundwater elevations below the Site were generally 13 to 15 feet below MSL, or approximately 64 to 70 feet bgs. Groundwater elevations are approximately 0.8 foot below their highest levels measured in July 1999.

Figure 3 is a groundwater elevation map of the MBFB generated using the data collected during the 2001 Annual event. The hydraulic gradient in the MBFB was measured to be approximately 0.0011 ft/ft (1.1 feet in 1,000 feet) to the south. The gradient has decreased by approximately 0.0002 ft/ft (2.0 feet in 10,000 feet) from the July 1999 groundwater sampling event when the gradient was 0.0013 ft/ft (1.3 feet in 1,000 feet) to the south.

Historic groundwater levels are presented in Table 3 and hydrographs for the wells are included as Figures 4a through 4d. The low gradient is demonstrated in the hydrographs by the extremely close proximity of the hydrographs from individual wells.

4.2 Groundwater Quality

4.2.1 VOC Results

Results of VOC analysis by EPA Method 8260B for the 2001 Annual event conducted in January and February 2001 are summarized in Table 4. There were no indications of dense non-aqueous phase liquid (DNAPL) within any of the sampled wells. General plume geometries for Trichloroethene (TCE), 1,1-Dichloroethene (1,1-DCE), Tetrachloroethene (PCE), 1,1,1-



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Trichloroethane (1,1,1-TCA), and Chloroform (CF) appear to be relatively unchanged from the previous two sampling events (July 1999 and June 2000).

Figure 5 shows the dissolved-phase TCE concentrations in the MBFB. TCE concentrations in groundwater have decreased in all wells monitored, except in wells WCC-6S, TMW-1, TMW-4 and TMW-10. The TCE concentration increases at WCC-6S, TMW-1 and TMW-4 are relatively minor (13%, 8%, and 15%, respectively). The current TCE concentration at all three of the aforementioned wells is less than the calculated average concentrations suggesting a decreasing trend. TMW-10 showed a two order of magnitude increase in validated data from an average of 8 ug/l to 850 ug/l. Based on the historical data, TMW-10 was re-sampled on May 10, 2001. The results of the re-sampling indicated a TCE concentration of 3.8 ug/l which is consistent with the historical results from the well (Table 5). Concentrations at TMW-2 and TMW-3 located near the postulated VOC source area have declined significantly (18% and 25%, respectively) since the previous monitoring event. Concentration vs. time graphs for TCE are included as Figures 6a through 6d.

Figure 7 shows the dissolved-phase 1,1-DCE concentrations in the MBFB. 1,1-DCE concentrations in groundwater have generally decreased. Minor increases (less than 20% variation from previous sampling event) in concentration are noted at WCC-7S, WCC-9S, and TMW-4. Noteworthy decreases (greater than 20% variation from the previous sampling event) in 1,1-DCE concentrations were observed in samples collected from TMW-2, TMW-3, TMW-5 and TMW-12. 1,1-DCE continues to remain not detected at TMW-10, TMW-11, TMW-13, TMW14, and TMW-17. Concentration vs. time graphs for 1,1-DCE are included as Figures 8a through 8d.

Figure 9 shows the dissolved-phase PCE concentrations in the MBFB. PCE concentrations in groundwater have continued to be generally not detected. Only three samples contained detectable quantities of PCE: TMW-16 (1.1 ug/L), BL-03 (25 ug/L), and XMW-09 (59 ug/L). Concentration vs. time graphs for PCE are included as Figures 10a through 10d.

Figure 11 shows the dissolved-phase 1,1,1-TCA concentrations in the MBFB. Measured 1,1,1-TCA concentrations in groundwater have generally decreased where detected. Only four monitoring locations had laboratory non-qualified detected levels of 1,1,1-TCA in groundwater: WCC-3S (1,100 ug/L), WCC-3D (58 ug/L), WCC-6S (770 ug/L), and TMW-02 (960 ug/L). Concentration vs. time graphs for 1,1,1-TCA are included as Figures 12a through 12d.

Figure 13 shows the dissolved-phase chloroform concentrations in the MBFB. Chloroform concentrations in groundwater, where they have been measured above the detection limit, have generally remained the same or decreased in the TMW series of wells. Within the WCC series, where the concentrations have been reported above the detection limits, chloroform has decreased. Concentration vs. time graphs for chloroform are included as Figures 14a through 14d.



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4.2.2 Title 22 Metals and Hexavalent Chromium Results

Title 22 metals and hexavalent chromium concentrations in groundwater, as measured during this sampling event, are summarized on Table 6. Figure 15 shows the hexavalent chromium concentrations in groundwater measured during this event. Review of hexavalent chromium concentrations in groundwater sampled during the 1999 and 2000 sampling events suggest that concentrations have remained relatively constant at the two locations with coincident monitoring (BL-2 and BL-3). Hexavalent chromium concentrations are generally present across the Site at concentrations less than 0.020 mg/L.

Concentrations of lead, mercury, molybdenum, nickel, vanadium, and zinc are found at concentrations above the detection limit predominately in groundwater from the southern and eastern portion of the Site. These data are presented in Table 6.

4.2.3 Bioattenuation Parameters

During this monitoring and sampling event, the following bioattenuation sampling was conducted:

- Field monitoring for DO, ORP, temperature, conductivity, and pH.
- Laboratory sampling for Total Alkalinity by EPA Method 2320B; Chloride, Nitrate, Nitrite, and Sulfate by EPA Method 300.0A; TOC by EPA Method 415.1; Ethane, Ethene, and Methane by EPA Method SOP-175; Ferrous Iron by EPA Method 3500-FE D; Dissolved Metals and Cations by EPA Method 6010B; and Mercury by EPA Method 7470A.

4.2.3.1 Field Bioattenuation Parameters

A summary of current field bioattenuation parameters is included on Table 7. DO and ORP distribution in shallow groundwater are shown on Figure 16 and Figure 17, respectively. The distribution of DO and ORP suggest evidence of intrinsic remediation in the potential source area near former Buildings 1, 2, and 36, and along the southern Site boundary (Parcel D). DO has been depleted within the areas of the TCE- and 1,1-DCE-impacted groundwater. ORP is negative within the same areas suggesting that there are less aerobic conditions present.

4.2.3.2 Laboratory Bioattenuation Parameters

Laboratory analyses were conducted on groundwater samples collected at 15 locations across the Site to provide a basis for evaluation of the occurrence of natural attenuation. Analyses included determination of ferrous iron, chloride, nitrate and nitrite, sulfate, total alkalinity, TOC, ethane, ethene, methane, and selected cation concentrations. A listing of the concentrations of these parameters in the groundwater are found on Tables 7 and 8.



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Chloride and TOC concentrations are higher in the vicinity of WCC-03S and TMW-2 (the primary TCE and 1,1-DCE source area). Nitrate values are depressed in the same vicinity. Only sporadic concentrations of methane were measured and concentrations of ethane and ethene were not detected in any of the analyzed samples.

5.0 QUALITY CONTROL/QUALITY ASSURANCE

5.1 Field Quality Control Samples

5.1.1 Field Duplicates

Duplicate samples were analyzed for VOC concentrations from WCC-07S, WCC-11S, WCC-12S, and TMW-04. These results are included on Table 4. Generally, in evaluating the relative percent difference (RPD) between the sample data and the duplicate data, only samples with concentrations that are five times or greater than the detection limit are analyzed. There is one duplicate from the validated data that is suspect: the 1,1-DCE concentration measured in groundwater collected from TMW-04. The RPD for this sample is 200%. The RPD for all other detected constituents is less than 10%. One duplicate from the non-validated data, the 1,1-DCE concentration measured in groundwater collected from WCC-07S, had an RPD of 42%. The RPD for all other detected constituents is less than 5%.

Duplicate samples were analyzed for dissolved metals and hexavalent chromium at WCC-07S and TMW-04. These results are included on Table 6. In reviewing that data, the only duplicate from the verified data that is suspect is the barium concentration measured in groundwater collected from TMW-4. The RPD for barium is 100%.

5.1.2 Field Blanks

Furnished data including Chain-of-Custody reports did not include any trip blank, equipment blank, or field blank information, as required by the work plan. Measures will be taken to ensure future sampling events include these samples.

5.2 Laboratory QA/QC Samples

Final laboratory-certified reports and quality control procedures are included on the CD as Appendix B. Data validation results are provided in Appendix C.

6.0 CONCLUSIONS

Groundwater levels have decreased beneath the BRC Former C-6 facility since the last sampling event by less than 0.5 feet. The hydraulic gradient beneath the site remains relatively low, decreasing during this monitoring event from 0.0013 to 0.0011 ft/ft to the south.



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In general, concentrations of dissolved chlorinated VOCs have decreased since the previous monitoring event. The plume geometry remains relatively constant. Hexavalent chromium concentrations are generally below 0.020 mg/l.



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7.0 REFERENCES

England Geosystem and Haley & Aldrich, 2001. *Standard Operating Procedures for Measuring Natural Attenuation Parameters at Boeing Realty Corporation Former C-6 Facility.* Revision 1.0, January 9, 2001.

Exponent, 2000. *Statement of Work for Evaluation of Natural Attenuation at Boeing Realty Corporation's C-6 Facility,* Torrance, California. December 2000.

Kennedy/Jenks Consultants, 2000a. *Groundwater Status Report*, dated October 27, 2000.

Kennedy/Jenks Consultants, 2000b. *Groundwater Monitoring Work Plan 2000*, dated December 2000.

Poland, J.F., Garnett, A. A., and Sinnott, A., 1959. *Geology, Hydrology and Chemical Characteristics of the Ground Waters in the Torrance-Santa Monica Area, California;* USGS Water Supply Paper 1461.

State of California, Department of Water Resources, 1961. *Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County. Appendix A Ground Water Geology.*

Tait Environmental Management, Inc. *Boeing Realty Corporation, Former C-6 Facility, Groundwater Monitoring Services, Standard Operating Procedures.* January 11, 2001.

Tait Environmental Management, Inc. *Health and Safety Plan Prepared for Boeing Realty Corporation, Former C-6 Facility, 19503 South Normandie Avenue, Los Angeles, California.* January 8, 2001.

USEPA, 1999. *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October, 1999).

USEPA, 1999. *Record of Decision for Dual Site Groundwater Operable Unit, Montrose Chemical and Del Amo Superfund Sites, Volume I and II.* Dated March 1999.



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Tables

Table 1
Well Information
Boeing Realty Corporation Former C-6 Facility

Name	Easting ¹	Northing ¹	Top of Casing Elevation (AMSL) ²	Boring Total Depth (feet)	Screen Depth Interval (feet)	Depth to Top of Filter Pack (feet)	Casing Diameter (in)	Casing Type	Slot Size	Dried Date	Comments
BL-1	11218.52	13450.56	58.34	81.5	61.5-81.5	56.5	2	Sched 40 PVC	0.010-Inch	2/2/1999	
BL-2	11202.12	12546.32	58.15	81.5	61.5-81.5	56.6	2	Sched 40 PVC	0.010-Inch	2/3/1999	
BL-3	11207.79	11961.46	59.33	82	62-82	59	2	Sched 40 PVC	0.010-Inch	2/8/1999	
BL-4	11333.09	11087.39	-	79	58-78	55	2	Sched 40 PVC	0.010-Inch	2/16/1999	Abandoned
BL-5	11397.77	13550.72	-	78.5	58-78	55	2	Sched 40 PVC	0.010-Inch	2/4/1999	Abandoned
BL-6	11547.74	13063.70	-	78.5	58-78	55	2	Sched 40 PVC	0.010-Inch	2/4/1999	Abandoned
BL-7	11569.25	12295.45	-	78.5	58-78	54	2	Sched 40 PVC	0.010-Inch	2/8/1999	Abandoned
BL-8	11546.23	11321.84	-	81	60-80	57	2	Sched 40 PVC	0.010-Inch	2/16/1999	Abandoned
Montrose Wells											
XMW-09	12654.36	11148.11	-	-	66-81	-	4	-	-	5/9/1989	
XMW-18	12286.92	11426.42	-	-	68-83	-	4	-	-	3/29/1990	
XMW-19	12968.08	11757.92	-	-	63-79	-	4	-	-	3/30/1990	

1 Local coordinate system (feet)

2 AMSL - Above Mean Sea Level

Table 1
Well Information
Boeing Realty Corporation Former C-6 Facility

Name	Easting ¹	Nothing ¹	Top of Casing Elevation (AMSL) ²	Boring Total Depth (feet)	Screen Depth Interval (feet)	Depth to Top of Filter Pack (feet)	Casing Diameter (in)	Casing Type	Slot Size	Drilled Date	Comments
WCC-1S	12738.89	13194.04	50.74	91	77-87	75	2	Sched 40 PVC	0.020-Inch	3/25/1987	Abandoned
WCC-1D	12739.11	13181.09	50.69	140	120-140	114	4	Sched 40 PVC	0.010-Inch	6/30/1989	Abandoned
WCC-2S	12234.27	13451.60	50.83	90.5	70-90	63	4	Sched 40 PVC	0.010-Inch	10/28/1987	Abandoned
WCC-3S	12608.52	13238.90	51.16	92	69-89	64	4	Sched 40 PVC	0.010-Inch	10/26/1987	
WCC-3D	12583.61	13265.87	51.16	140	120-140	115	4	Sched 40 PVC	0.010-Inch	6/27/1989	
WCC-4S	12741.35	13075.30	49.65	91.5	70.5-90.5	65	4	Sched 40 PVC	0.010-Inch	10/27/1987	
WCC-5S	12963.90	12998.70	48.84	91	61-91	63.5	4	Sched 40 PVC	0.010-Inch	11/24/1987	
WCC-6S	12580.24	12953.10	51.32	91	60-90	54	4	Sched 40 PVC	0.010-Inch	9/22/1989	
WCC-7S	12730.37	12868.65	50.23	90.5	60-90	54	4	Sched 40 PVC	0.010-Inch	6/8/1989	
WCC-8S	12737.33	13318.92	50.87	90	59.5-89.5	54	4	Sched 40 PVC	0.010-Inch	6/12/1989	Abandoned
WCC-9S	12928.87	12627.94	46.93	91.5	60-90	55	4	Sched 40 PVC	0.010-Inch	9/21/1989	
WCC-10S	11338.90	14038.98	58.17	90.8	60-90	54	4	Sched 40 PVC	0.010-Inch	6/7/1989	
WCC-11S	12744.01	13870.68	51.37	91	60-90	56	4	Sched 40 PVC	0.010-Inch	9/13/1990	
WCC-12S	12749.26	12715.21	46.93	91.5	60-90	55	4	Sched 40 PVC	0.010-Inch	9/17/1990	
DAC-P1	11194.86	12988.63	-	90	60-90	55	4	Sched 40 PVC	0.010-Inch	9/25/1989	
TMW-1	12212.00	13143.49	51.24	86	61-81	59	2	Sched 40 PVC	0.010-Inch	6/28/1998	
TMW-2	12478.09	13161.38	51.18	87	62-82	57	2	Sched 40 PVC	0.010-Inch	6/28/1998	
TMW-3	11909.54	12315.47	51.07	87	62.5-82.5	60	2	Sched 40 PVC	0.010-Inch	7/21/1998	
TMW-4	12498.69	12334.70	50.35	86	60-80	58	2	Sched 40 PVC	0.010-Inch	6/30/1998	
TMW-5	12038.44	11931.45	50.12	86	61.3-81.3	58.9	2	Sched 40 PVC	0.010-Inch	7/21/1998	
TMW-6	12552.93	11936.32	50.13	86	61.2-81.2	59.1	2	Sched 40 PVC	0.010-Inch	7/1/1998	
TMW-7	12560.70	12701.25	51.12	89.5	64-84	62	2	Sched 40 PVC	0.010-Inch	6/29/1998	
TMW-8	12571.93	12812.42	51.06	89.5	61-81	59	2	Sched 40 PVC	0.010-Inch	6/29/1998	
TMW-9	12344.53	12740.05	51.21	86	61-81	59	2	Sched 40 PVC	0.010-Inch	6/30/1998	
TMW-10	12968.14	12170.61	47.52	85	60.5-80.5	57.6	2	Sched 40 PVC	0.010-Inch	2/28/1999	
TMW-11	12968.08	11423.04	47.47	83	58-78	54.6	2	Sched 40 PVC	0.010-Inch	2/1/1999	
TMW-12	12529.43	11402.90	50.85	88	62-82	59.3	2	Sched 40 PVC	0.010-Inch	1/27/1999	
TMW-13	11973.10	11416.11	50.91	85	60-80	58	2	Sched 40 PVC	0.010-Inch	2/2/1999	
TMW-14	11797.06	11416.11	58.21	90	65-85	63	2	Sched 40 PVC	0.010-Inch	2/3/1999	
TMW-15	11800.22	12165.10	55.26	92	62-87	60	2	Sched 40 PVC	0.010-Inch	2/4/1999	
TMW-16	11887.57	12904.74	50.91	82.5	56.5-76.5	54.5	2	Sched 40 PVC	0.010-Inch	1/29/1999	
TMW-17	11533.67	12604.45	-	87	62-82	59	2	Sched 40 PVC	0.010-Inch	5/10/1999	

Table 2
Groundwater Elevations - January 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet AMSL) ¹	Depth to Water (feet)	Ground Water Elevation (feet AMSL)	Total Depth (feet)	Comments
WCC-3S	1/15/2001	51.16	64.87	-13.71	88.82	
WCC-3D	1/15/2001	51.16	65.01	-13.85	139.69	
WCC-4S	1/15/2001	49.65	63.48	-13.83	89.67	
WCC-5S	1/15/2001	48.84	62.47	-13.63	89.91	
WCC-6S	1/15/2001	51.32	65.27	-13.95	88.50	
WCC-7S	1/15/2001	50.23	64.12	-13.89	90.68	
WCC-9S	1/15/2001	46.93	60.90	-13.97	89.39	
WCC-10S	1/15/2001	58.17	71.37	-13.20	96.70	
WCC-11S	1/15/2001	51.37	64.32	-12.95	91.00	
WCC-12S	1/15/2001	46.93	60.95	-14.02	90.29	
DAC-P1	1/15/2001	---	65.64	---	90.33	TOC was modified
TMW-1	1/15/2001	51.24	65.00	-13.76	79.79	
TMW-2	1/15/2001	51.18	64.93	-13.75	79.74	
TMW-3	1/15/2001	51.07	65.41	-14.34	81.87	
TMW-4	1/15/2001	50.35	64.87	-14.52	78.35	
TMW-5	1/15/2001	50.12	64.90	-14.78	79.90	
TMW-6	1/15/2001	50.13	64.93	-14.80	79.48	
TMW-7	1/15/2001	51.12	65.29	-14.17	82.30	
TMW-8	1/15/2001	51.06	65.12	-14.06	79.61	
TMW-9	1/15/2001	51.21	65.41	-14.20	79.03	
TMW-10	1/15/2001	47.52	61.96	-14.44	78.35	
TMW-10	5/10/2001	47.52	61.55	-14.03	78.29	
TMW-11	1/15/2001	47.47	62.43	-14.96	78.31	
TMW-12	1/15/2001	50.85	66.02	-15.17	81.58	
TMW-13	---	50.91	---	---	---	Could not locate
TMW-13	5/10/2001	50.91	65.72	-14.81	79.21	
TMW-14	1/15/2001	58.21	73.21	-15.00	88.25	
TMW-15	1/15/2001	55.26	69.52	-14.26	79.85	
TMW-16	1/15/2001	50.91	64.05	-13.14	75.09	
BL-1	1/15/2001	58.34	71.41	-13.07	83.66	
BL-2	1/15/2001	58.15	71.91	-13.76	83.75	
BL-3	1/15/2001	59.33	73.70	-14.37	84.10	
XMW-09	1/15/2001	---	68.80	---	79.35	
XMW-18	1/15/2001	---	66.43	---	141.59	
XMW-19	1/15/2001	---	61.35	---	77.37	

Notes:

Depth to Water measurements taken from top of monitoring well casing.

1 AMSL - Above Mean Sea Level

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-1S	11/13/1987			-21.63		
WCC-1S	10/18/1989			-19.48		
WCC-1S	6/15/1992			-19.20		
WCC-1S	9/21/1992			-19.42		
WCC-1S	1/5/1993			-19.34		
WCC-1S	4/9/1993			-18.79		
WCC-1S	6/7/1993			-18.75		
WCC-1S	8/24/1993			-18.25		
WCC-1S	11/18/1993			-18.00		
WCC-1S	2/23/1994			-17.61		
WCC-1S	6/10/1994			-17.23		
WCC-1S	9/8/1994			-17.25		
WCC-1S	12/21/1994					
WCC-1S	3/13/1995			-17.12		
WCC-1S	6/12/1995			-16.53		
WCC-1S	9/20/1995			-16.27		
WCC-1S	12/12/1995			-16.05		
WCC-1S	2/29/1996			-15.80		
WCC-1S	6/6/1996			-15.47		
WCC-1S	9/18/1996			-15.36		
WCC-1S	12/18/1996			-15.03		
WCC-1S	5/6/1997			-14.58		
WCC-1S	7/1/1997			-14.51		
WCC-1S	7/22/1997			-14.58		
WCC-1S	8/4/1997			-14.53		
WCC-1S	8/19/1997			-14.47		
WCC-1S	9/3/1997			-14.53		
WCC-1S	9/16/1997			-14.46		
WCC-1D	10/18/1989			-19.51		
WCC-1D	6/15/1992			-19.55		
WCC-1D	9/21/1992			-19.92		
WCC-1D	1/5/1993			-19.61		
WCC-1D	4/9/1993			-19.10		
WCC-1D	6/7/1993			-19.00		
WCC-1D	8/24/1993			-18.53		
WCC-1D	11/18/1993			-18.34		
WCC-1D	2/23/1994			-17.83		
WCC-1D	6/10/1994			-17.47		
WCC-1D	9/8/1994			-17.66		
WCC-1D	12/21/1994			-17.55		
WCC-1D	3/13/1995			-17.36		
WCC-1D	6/12/1995			-16.79		
WCC-1D	9/20/1995			-16.60		
WCC-1D	12/12/1995			-16.31		
WCC-1D	2/29/1996			-16.15		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-1D	6/6/1996			-15.73		
WCC-1D	9/18/1996			-15.65		
WCC-1D	12/18/1996			-15.34		
WCC-1D	5/6/1997			-14.87		
WCC-1D	7/1/1997			-14.82		
WCC-1D	7/22/1997			-14.91		
WCC-1D	8/4/1997			-14.85		
WCC-1D	8/19/1997			-14.80		
WCC-1D	9/3/1997			-14.84		
WCC-1D	9/16/1997			-14.79		
WCC-2S	11/13/1987			-19.72		
WCC-2S	10/18/1989			-19.06		
WCC-2S	6/15/1992			-19.15		
WCC-2S	9/21/1992			-19.41		
WCC-2S	1/5/1993			-19.51		
WCC-2S	4/9/1993			-18.64		
WCC-2S	6/7/1993			-18.63		
WCC-2S	8/24/1993			-18.15		
WCC-2S	11/18/1993			-17.87		
WCC-2S	2/23/1994			-17.49		
WCC-2S	6/10/1994			-17.07		
WCC-2S	9/8/1994			-17.20		
WCC-2S	12/21/1994			-17.17		
WCC-2S	3/13/1995			-17.08		
WCC-2S	6/12/1995			-16.37		
WCC-2S	9/20/1995			-16.19		
WCC-2S	12/12/1995			-15.86		
WCC-2S	2/29/1996			-15.77		
WCC-2S	6/6/1996			-15.26		
WCC-2S	9/18/1996			-15.18		
WCC-2S	12/18/1996			-14.82		
WCC-2S	5/6/1997			-14.36		
WCC-3S	11/13/1987			-21.56		
WCC-3S	10/18/1989			-19.42		
WCC-3S	6/15/1992			-19.24		
WCC-3S	9/21/1992			-19.52		
WCC-3S	1/5/1993			-19.73		
WCC-3S	4/9/1993			-18.83		
WCC-3S	6/7/1993			-18.82		
WCC-3S	8/24/1993			-18.36		
WCC-3S	11/18/1993			-18.01		
WCC-3S	2/23/1994			-17.67		
WCC-3S	6/10/1994			-17.19		
WCC-3S	9/8/1994			-17.31		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-3S	12/21/1994			-17.28		
WCC-3S	3/13/1995			-17.22		
WCC-3S	6/12/1995			-16.58		
WCC-3S	9/20/1995			-16.37		
WCC-3S	12/12/1995			-16.06		
WCC-3S	2/29/1996			-15.93		
WCC-3S	6/6/1996			-15.41		
WCC-3S	9/18/1996			-15.41		
WCC-3S	12/18/1996			-15.11		
WCC-3S	5/6/1997			-14.63		
WCC-3S	7/1/1997			-14.53		
WCC-3S	7/22/1997			-14.64		
WCC-3S	8/4/1997			-14.53		
WCC-3S	8/19/1997			-14.52		
WCC-3S	9/3/1997			-14.58		
WCC-3S	9/16/1997			-14.53		
WCC-3S	7/14/1998			-13.40		
WCC-3S	9/22/1998			-13.48		
WCC-3S	10/16/1998			-13.74		
WCC-3S	3/6/1999			-13.45		
WCC-3S	7/12/1999			-13.33		
WCC-3S	6/20/2000			-13.47		
WCC-3S	1/15/2001	51.16	64.87	-13.71		
WCC-3D	10/18/1989			-19.38		
WCC-3D	6/15/1992			-19.39		
WCC-3D	9/21/1992			-19.71		
WCC-3D	1/5/1993			-20.52		
WCC-3D	4/9/1993			-18.87		
WCC-3D	6/7/1993			-18.85		
WCC-3D	8/24/1993			-18.40		
WCC-3D	11/18/1993			-18.18		
WCC-3D	2/23/1994			-18.00		
WCC-3D	6/10/1994			-17.39		
WCC-3D	9/8/1994			-17.47		
WCC-3D	12/21/1994			-17.42		
WCC-3D	3/13/1995			-17.27		
WCC-3D	6/12/1995			-16.67		
WCC-3D	9/20/1995			-16.47		
WCC-3D	12/12/1995			-16.17		
WCC-3D	2/29/1996			-15.95		
WCC-3D	6/6/1996			-15.57		
WCC-3D	9/18/1996			-15.50		
WCC-3D	12/18/1996			-15.21		
WCC-3D	5/6/1997			-14.72		
WCC-3D	7/1/1997			-14.65		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-3D	7/22/1997			-14.73		
WCC-3D	8/4/1997			-14.69		
WCC-3D	8/19/1997			-14.61		
WCC-3D	9/3/1997			-14.65		
WCC-3D	9/16/1997			-14.63		
WCC-3D	9/22/1998			-13.58		
WCC-3D	10/16/1998			-13.53		
WCC-3D	3/6/1999			-13.60		
WCC-3D	7/12/1999			-13.49		
WCC-3D	6/20/2000			-13.70		
WCC-3D	1/15/2001	51.16	65.01	-13.85		
WCC-4S	11/13/1987			-21.77		
WCC-4S	10/18/1989			-19.59		
WCC-4S	6/15/1992			-19.22		
WCC-4S	9/21/1992			-19.49		
WCC-4S	1/5/1993			-19.34		
WCC-4S	4/9/1993			-18.86		
WCC-4S	6/7/1993			-18.78		
WCC-4S	8/24/1993			-18.37		
WCC-4S	11/18/1993			-18.16		
WCC-4S	2/23/1994			-17.77		
WCC-4S	6/10/1994			-17.32		
WCC-4S	9/8/1994			-17.37		
WCC-4S	12/21/1994			-17.31		
WCC-4S	3/13/1995			-17.23		
WCC-4S	6/12/1995			-16.61		
WCC-4S	9/20/1995			-16.38		
WCC-4S	12/12/1995			-16.16		
WCC-4S	2/29/1996			-17.02		
WCC-4S	6/6/1996			-15.56		
WCC-4S	9/18/1996			-15.49		
WCC-4S	12/18/1996			-15.19		
WCC-4S	5/6/1997			-14.74		
WCC-4S	7/1/1997			-14.66		
WCC-4S	7/22/1997			-14.73		
WCC-4S	8/4/1997			-14.69		
WCC-4S	8/19/1997			-14.61		
WCC-4S	9/3/1997			-14.69		
WCC-4S	9/16/1997			-14.61		
WCC-4S	7/14/1998			-13.56		
WCC-4S	9/22/1998			-13.46		
WCC-4S	10/16/1998			-13.49		
WCC-4S	3/6/1999			-13.43		
WCC-4S	7/12/1999			-13.33		
WCC-4S	6/20/2000			-13.51		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-4S	1/15/2001	49.65	63.48	-13.83		
WCC-5S	10/18/1989			-19.70		
WCC-5S	6/15/1992			-19.13		
WCC-5S	9/21/1992			-19.42		
WCC-5S	1/5/1993			-19.32		
WCC-5S	4/9/1993			-18.83		
WCC-5S	6/7/1993			-18.78		
WCC-5S	8/24/1993			-18.38		
WCC-5S	11/18/1993			-18.13		
WCC-5S	2/23/1994			-17.78		
WCC-5S	6/10/1994			-17.33		
WCC-5S	9/8/1994			-17.33		
WCC-5S	12/21/1994			-17.25		
WCC-5S	3/13/1995			-17.19		
WCC-5S	6/12/1995			-16.56		
WCC-5S	9/20/1995			-16.35		
WCC-5S	12/12/1995			-16.14		
WCC-5S	2/29/1996			-16.02		
WCC-5S	6/6/1996			-15.54		
WCC-5S	9/18/1996			-15.47		
WCC-5S	12/18/1996			-15.22		
WCC-5S	5/6/1997			-14.81		
WCC-5S	7/1/1997			-14.71		
WCC-5S	7/22/1997			-14.77		
WCC-5S	8/4/1997			-14.71		
WCC-5S	8/19/1997			-14.65		
WCC-5S	9/3/1997			-14.72		
WCC-5S	9/16/1997			-14.64		
WCC-5S	9/22/1998			-13.52		
WCC-5S	10/16/1998			-13.46		
WCC-5S	3/6/1999			-13.39		
WCC-5S	7/12/1999			-13.25		
WCC-5S	6/20/2000			-13.46		
WCC-5S	1/15/2001	48.84	62.47	-13.63		
WCC-6S	10/18/1989			-19.70		
WCC-6S	6/15/1992			-19.40		
WCC-6S	9/21/1992			-19.64		
WCC-6S	1/5/1993			-19.50		
WCC-6S	4/9/1993			-19.03		
WCC-6S	6/7/1993			-18.97		
WCC-6S	8/24/1993			-18.55		
WCC-6S	11/18/1993			-18.32		
WCC-6S	2/23/1994			-17.92		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-6S	6/10/1994			-17.48		
WCC-6S	9/8/1994			-17.45		
WCC-6S	12/21/1994			-17.45		
WCC-6S	3/13/1995			-17.36		
WCC-6S	6/12/1995			-16.75		
WCC-6S	9/20/1995			-16.64		
WCC-6S	12/12/1995			-16.30		
WCC-6S	2/29/1996			-16.17		
WCC-6S	6/6/1996			-15.76		
WCC-6S	9/18/1996			-15.65		
WCC-6S	12/18/1996			-15.35		
WCC-6S	5/6/1997			-14.90		
WCC-6S	7/1/1997			-14.79		
WCC-6S	7/22/1997			-14.89		
WCC-6S	8/4/1997			-14.84		
WCC-6S	9/16/1997			-14.73		
WCC-6S	7/14/1998			-13.69		
WCC-6S	9/22/1998			-13.74		
WCC-6S	10/16/1998			-13.77		
WCC-6S	3/6/1999			-13.71		
WCC-6S	7/12/1999			-13.55		
WCC-6S	6/20/2000			-13.66		
WCC-6S	1/15/2001	51.32	65.27	-13.95		
WCC-7S	10/18/1989			-20.07		
WCC-7S	6/15/1992			-19.63		
WCC-7S	9/21/1992			-19.93		
WCC-7S	1/5/1993			-19.76		
WCC-7S	4/9/1993			-19.30		
WCC-7S	6/7/1993			-19.23		
WCC-7S	8/24/1993			-18.83		
WCC-7S	11/18/1993			-18.60		
WCC-7S	2/23/1994			-18.22		
WCC-7S	6/10/1994			-17.82		
WCC-7S	9/8/1994			-17.80		
WCC-7S	12/21/1994			-17.74		
WCC-7S	3/13/1995			-17.54		
WCC-7S	6/12/1995			-17.03		
WCC-7S	9/20/1995			-16.82		
WCC-7S	12/12/1995			-16.59		
WCC-7S	2/29/1996			-16.46		
WCC-7S	6/6/1996			-16.01		
WCC-7S	9/18/1996			-15.95		
WCC-7S	12/18/1996			-15.64		
WCC-7S	5/6/1997			-15.19		
WCC-7S	7/1/1997			-15.12		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-7S	7/22/1997			-15.20		
WCC-7S	8/4/1997			-15.15		
WCC-7S	8/19/1997			-15.08		
WCC-7S	9/3/1997			-15.15		
WCC-7S	9/16/1997			-15.06		
WCC-7S	9/22/1998			-13.89		
WCC-7S	10/16/1998			-13.94		
WCC-7S	3/6/1999			-13.58		
WCC-7S	7/12/1999			-13.46		
WCC-7S	6/20/2000			-13.67		
WCC-7S	1/15/2001	50.23	64.12	-13.89		
WCC-8S	10/18/1989			-19.35		
WCC-8S	6/15/1992			-19.11		
WCC-8S	9/21/1992			-19.34		
WCC-8S	1/5/1993			-19.19		
WCC-8S	4/9/1993			-18.69		
WCC-8S	6/7/1993			-18.61		
WCC-8S	8/24/1993			-18.19		
WCC-8S	11/18/1993			-17.89		
WCC-8S	2/23/1994			-17.49		
WCC-8S	6/10/1994			-17.11		
WCC-8S	9/8/1994			-17.14		
WCC-8S	12/21/1994			-17.12		
WCC-8S	3/13/1995			-17.29		
WCC-8S	6/12/1995			-16.42		
WCC-8S	9/20/1995			-16.16		
WCC-8S	12/12/1995			-15.89		
WCC-8S	2/29/1996			-15.76		
WCC-8S	6/6/1996			-15.34		
WCC-8S	9/18/1996			-15.27		
WCC-8S	12/18/1996			-14.99		
WCC-8S	5/6/1997			-14.56		
WCC-8S	7/1/1997			-14.44		
WCC-8S	7/22/1997			-14.50		
WCC-8S	8/4/1997			-14.46		
WCC-8S	8/19/1997			-14.39		
WCC-8S	9/3/1997			-14.46		
WCC-8S	9/16/1997			-14.39		
WCC-9S	10/18/1989			-20.07		
WCC-9S	6/15/1992			-19.44		
WCC-9S	9/21/1992			-19.66		
WCC-9S	1/5/1993			-19.56		
WCC-9S	4/9/1993			-19.09		
WCC-9S	6/7/1993			-19.09		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-9S	8/24/1993			-18.69		
WCC-9S	11/18/1993			-18.42		
WCC-9S	2/23/1994			-18.09		
WCC-9S	6/10/1994			-18.63		
WCC-9S	9/8/1994			-19.08		
WCC-9S	12/21/1994			-17.51		
WCC-9S	3/13/1995			-17.41		
WCC-9S	6/12/1995			-16.79		
WCC-9S	9/20/1995			-16.64		
WCC-9S	12/12/1995			-16.39		
WCC-9S	2/29/1996			-16.49		
WCC-9S	6/6/1996			-15.86		
WCC-9S	9/18/1996			-15.76		
WCC-9S	12/18/1996			-15.47		
WCC-9S	5/6/1997			-15.10		
WCC-9S	7/1/1997			-15.00		
WCC-9S	7/22/1997			-15.07		
WCC-9S	8/4/1997			-15.00		
WCC-9S	8/19/1997			-14.96		
WCC-9S	9/3/1997			-15.01		
WCC-9S	9/16/1997			-14.93		
WCC-9S	9/22/1998			-13.92		
WCC-9S	10/16/1998			-13.82		
WCC-9S	3/6/1999			-13.85		
WCC-9S	7/12/1999			-13.55		
WCC-9S	6/20/2000			-13.70		
WCC-9S	1/15/2001	46.93	60.90	-13.97		
WCC-10S	10/18/1989			-18.42		
WCC-10S	6/15/1992			-18.94		
WCC-10S	9/21/1992			-19.33		
WCC-10S	1/5/1993			-19.10		
WCC-10S	4/9/1993			-18.42		
WCC-10S	6/7/1993			-18.33		
WCC-10S	8/24/1993			-17.83		
WCC-10S	11/18/1993			-17.54		
WCC-10S	2/23/1994			-17.07		
WCC-10S	6/10/1994			-16.67		
WCC-10S	9/8/1994			-17.03		
WCC-10S	12/21/1994			-16.97		
WCC-10S	3/13/1995			-16.56		
WCC-10S	6/12/1995			-16.05		
WCC-10S	9/20/1995			-15.89		
WCC-10S	12/12/1995			-15.54		
WCC-10S	2/29/1996			-15.22		
WCC-10S	6/6/1996			-14.77		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-10S	9/18/1996			-14.68		
WCC-10S	5/6/1997			-13.78		
WCC-10S	7/1/1997			-13.74		
WCC-10S	7/22/1997			-13.76		
WCC-10S	8/4/1997			-13.73		
WCC-10S	8/19/1997			-13.69		
WCC-10S	9/3/1997			-13.72		
WCC-10S	9/16/1997			-13.70		
WCC-10S	7/14/1998			-12.53		
WCC-10S	3/6/1999			-12.67		
WCC-10S	7/12/1999			-12.63		
WCC-10S	6/20/2000			-13.13		
WCC-10S	1/15/2001	58.17	71.37	-13.20		
WCC-11S	6/15/1992			-17.62		
WCC-11S	9/21/1992			-18.81		
WCC-11S	1/5/1993			-18.69		
WCC-11S	4/9/1993			-18.13		
WCC-11S	6/7/1993			-18.04		
WCC-11S	8/24/1993			-17.60		
WCC-11S	11/18/1993			-17.36		
WCC-11S	2/23/1994			-16.96		
WCC-11S	6/10/1994			-16.45		
WCC-11S	9/8/1994			-16.58		
WCC-11S	12/21/1994			-16.63		
WCC-11S	3/13/1995			-16.48		
WCC-11S	6/12/1995			-15.83		
WCC-11S	9/20/1995			-15.59		
WCC-11S	12/12/1995			-15.35		
WCC-11S	2/29/1996			-15.19		
WCC-11S	6/6/1996			-14.71		
WCC-11S	9/18/1996			-14.64		
WCC-11S	12/18/1996			-14.34		
WCC-11S	5/6/1997			-13.88		
WCC-11S	7/1/1997			-13.76		
WCC-11S	7/22/1997			-13.84		
WCC-11S	8/4/1997			-13.74		
WCC-11S	8/19/1997			-13.74		
WCC-11S	9/3/1997			-13.81		
WCC-11S	9/16/1997			-13.75		
WCC-11S	9/22/1998			-12.68		
WCC-11S	10/16/1998			-12.68		
WCC-11S	3/6/1999			-12.64		
WCC-11S	7/12/1999			-12.53		
WCC-11S	6/20/2000			-12.88		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
WCC-11S	1/15/2001	51.37	64.32	-12.95		
WCC-12S	6/15/1992			-19.60		
WCC-12S	9/21/1992			-19.90		
WCC-12S	1/5/1993			-19.74		
WCC-12S	4/9/1993			-19.26		
WCC-12S	6/7/1993			-19.20		
WCC-12S	8/24/1993			-18.78		
WCC-12S	11/18/1993			-18.58		
WCC-12S	2/23/1994			-18.13		
WCC-12S	6/10/1994			-17.74		
WCC-12S	9/8/1994			-17.79		
WCC-12S	12/21/1994			-17.67		
WCC-12S	3/13/1995			-17.63		
WCC-12S	6/12/1995			-17.00		
WCC-12S	9/20/1995			-16.79		
WCC-12S	12/12/1995			-16.54		
WCC-12S	2/29/1996			-16.40		
WCC-12S	6/6/1996			-15.96		
WCC-12S	9/18/1996			-15.88		
WCC-12S	12/18/1996			-15.56		
WCC-12S	5/6/1997			-15.15		
WCC-12S	7/1/1997			-15.07		
WCC-12S	7/22/1997			-15.13		
WCC-12S	8/4/1997			-15.09		
WCC-12S	8/19/1997			-15.03		
WCC-12S	9/3/1997			-15.10		
WCC-12S	9/16/1997			-15.02		
WCC-12S	7/14/1998			-13.96		
WCC-12S	9/22/1998			-14.06		
WCC-12S	10/16/1998			-13.97		
WCC-12S	3/6/1999			-13.89		
WCC-12S	7/12/1999			-13.57		
WCC-12S	6/20/2000			-13.85		
WCC-12S	1/15/2001	46.93	60.95	-14.02		
DAC-P1	6/15/1992			-17.76		
DAC-P1	9/21/1992			-17.88		
DAC-P1	1/5/1993			-18.02		
DAC-P1	4/9/1993			-17.46		
DAC-P1	6/7/1993			-17.38		
DAC-P1	8/24/1993			-17.03		
DAC-P1	11/18/1993			-16.76		
DAC-P1	2/23/1994			-16.74		
DAC-P1	6/10/1994			-16.60		
DAC-P1	9/8/1994			-16.48		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
DAC-P1	12/21/1994			-16.25		
DAC-P1	3/13/1995			-16.41		
DAC-P1	6/12/1995			-15.94		
DAC-P1	9/20/1995			-15.66		
DAC-P1	12/12/1995			-15.66		
DAC-P1	2/29/1996			-15.40		
DAC-P1	6/6/1996			-15.02		
DAC-P1	9/18/1996			-14.88		
DAC-P1	12/18/1996			-14.67		
DAC-P1	5/6/1997			-14.20		
DAC-P1	7/1/1997			-14.03		
DAC-P1	7/22/1997			-14.01		
DAC-P1	8/4/1997			-13.98		
DAC-P1	8/19/1997			-13.91		
DAC-P1	9/3/1997			-13.93		
DAC-P1	9/16/1997			-13.91		
DAC-P1	7/14/1998			-13.28		
DAC-P1	3/6/1999			-12.87		
DAC-P1	7/12/1999			-12.72		
DAC-P1	6/20/2000			-13.01		
TMW-1	7/14/1998			-13.41		
TMW-1	9/22/1998			-13.56		
TMW-1	10/16/1998			-13.37		
TMW-1	3/6/1999			-13.52		
TMW-1	7/12/1999			-13.24		
TMW-1	6/20/2000			-13.65		
TMW-1	1/15/2001	51.24	65.00	-13.76		
TMW-2	7/14/1998			-13.42		
TMW-2	9/22/1998			-13.49		
TMW-2	10/16/1998			-13.40		
TMW-2	3/6/1999			-13.41		
TMW-2	7/12/1999			-13.30		
TMW-2	6/20/2000			-13.46		
TMW-2	1/15/2001	51.18	64.93	-13.75		
TMW-3	7/14/1998			-14.17		
TMW-3	9/22/1998			-14.18		
TMW-3	10/16/1998			-14.06		
TMW-3	3/6/1999			-14.14		
TMW-3	7/12/1999			-13.91		
TMW-3	6/20/2000			-14.12		
TMW-3	1/15/2001	51.07	65.41	-14.34		
TMW-4	7/14/1998			-14.40		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
TMW-4	9/22/1998			-14.43		
TMW-4	10/16/1998			-14.26		
TMW-4	3/6/1999			-14.28		
TMW-4	7/12/1999			-14.03		
TMW-4	6/20/2000			-14.26		
TMW-4	1/15/2001	50.35	64.87	-14.52		
TMW-5	7/14/1998			-14.62		
TMW-5	9/22/1998			-14.67		
TMW-5	10/16/1998			-14.48		
TMW-5	3/6/1999			-14.59		
TMW-5	7/12/1999			-14.33		
TMW-5	6/20/2000			-14.55		
TMW-5	1/15/2001	50.12	64.90	-14.78		
TMW-6	7/14/1998			-14.71		
TMW-6	9/22/1998			-14.73		
TMW-6	10/16/1998			-14.56		
TMW-6	3/6/1999			-14.55		
TMW-6	7/12/1999			-14.42		
TMW-6	6/20/2000			-14.46		
TMW-6	1/15/2001	50.13	64.93	-14.80		
TMW-7	7/14/1998			-13.98		
TMW-7	9/22/1998			-14.03		
TMW-7	10/16/1998			-13.91		
TMW-7	3/6/1999			-13.94		
TMW-7	7/12/1999			-13.78		
TMW-7	6/20/2000			-14.03		
TMW-7	1/15/2001	51.12	65.29	-14.17		
TMW-8	7/14/1998			-13.85		
TMW-8	9/22/1998			-13.88		
TMW-8	10/16/1998			-13.79		
TMW-8	3/6/1999			-13.84		
TMW-8	7/12/1999			-13.65		
TMW-8	6/20/2000			-13.92		
TMW-8	1/15/2001	51.06	65.12	-14.06		
TMW-9	7/14/1998			-14.08		
TMW-9	9/22/1998			-14.05		
TMW-9	10/16/1998			-13.93		
TMW-9	3/6/1999			-13.87		
TMW-9	7/12/1999			-13.70		
TMW-9	6/20/2000			-14.01		
TMW-9	1/15/2001	51.21	65.41	-14.20		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
TMW-10	3/6/1999			-14.25		
TMW-10	7/12/1999			-13.09		
TMW-10	6/20/2000			-14.05		
TMW-10	1/15/2001			-14.44		
TMW-10	5/10/2001	47.52	61.55	-14.03		
TMW-11	3/6/1999			-14.81		
TMW-11	7/12/1999			-14.50		
TMW-11	6/20/2000			-14.63		
TMW-11	1/15/2001	47.47	62.43	-14.96		
TMW-12	3/6/1999			-14.88		
TMW-12	7/12/1999			-14.69		
TMW-12	6/20/2000			-14.97		
TMW-12	1/15/2001	50.85	66.02	-15.17		
TMW-13	3/6/1999			-14.77		
TMW-13	7/12/1999			-14.60		
TMW-13	6/20/2000			-14.91		
TMW-13	5/10/2001	50.91	65.72	-14.81		
TMW-14	3/6/1999			-14.70		
TMW-14	7/12/1999			-14.46		
TMW-14	6/20/2000			-14.75		
TMW-14	1/15/2001	58.21	73.21	-15.00		
TMW-15	3/6/1999			-14.04		
TMW-15	7/12/1999			-13.64		
TMW-15	6/20/2000			-14.04		
TMW-15	1/15/2001	55.26	69.52	-14.26		
TMW-16	3/6/1999			-12.89		
TMW-16	7/12/1999			-12.63		
TMW-16	6/20/2000			-12.86		
TMW-16	1/15/2001	50.91	64.05	-13.14		
TMW-17	7/12/1999			-13.16		
TMW-17	1/14/2000			-13.41		
BL-1	3/6/1999			-12.41		
BL-1	7/12/1999			-12.38		
BL-1	1/14/2000			-12.70		
BL-1	6/20/2000			-12.86		
BL-1	1/15/2001	58.34	71.41	-13.07		
BL-2	3/6/1999			-13.32		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
BL-2	7/12/1999			-13.17		

Table 3
Historic Groundwater Elevations
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet MSL)	Total Depth (feet)	Comments
BL-2	1/14/2000			-13.40		
BL-2	6/20/2000			-13.51		
BL-2	1/15/2001	58.15	71.91	-13.76		
BL-3	3/6/1999			-13.89		
BL-3	7/12/1999			-13.83		
BL-3	1/14/2000			-14.08		
BL-3	6/20/2000			-14.25		
BL-3	1/15/2001	59.33	73.70	-14.37		
BL-4	3/6/1999			-14.51		
BL-4	7/12/1999			-14.43		
BL-4	1/14/2000			-15.11		
BL-5	3/6/1999			-12.52		
BL-5	7/12/1999			-12.53		
BL-5	1/14/2000			-12.87		
BL-6	3/6/1999			-12.92		
BL-6	7/12/1999			-12.83		
BL-6	1/14/2000			-13.15		
BL-7	3/6/1999			-13.57		
BL-7	7/12/1999			-13.44		
BL-7	1/14/2000			-14.41		
BL-8	3/6/1999			-14.27		
BL-8	7/12/1999			-14.29		
BL-8	1/14/2000			-14.55		

Table 4
Volatile Organic Compounds by EPA 8260B - January//February 2001

Well	Date Sampled	Dilution Factor	1,1,1,2-Tetra chloro ethane	1,1,1-Trichloro ethane	1,1,2,2-Tetra chloro ethane	1,1,2-Trichloro ethane	1,1,2-Trifluoro ethane	1,1-Dichloro ethene	1,1-Dichloro propane	1,1,2,3-Trichloro benzene	1,2,3-Trichloro propane	1,2,4-Trichloro benzene	1,2,4-Dibromo propane	1,2,4-Dibromo ethane	1,2-Dichloro benzene
			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
WCC-03S	2/3/2001	500	<500	1100	<500	<500	550	17000	<500	<500	<500	<500	<1000	<500	<500
WCC-03D	2/3/2001	2	<2	58	<2	<2	<2	47	<2	<2	0.47 J	<4	<2	<2	<2
WCC-04S	1/24/2001	50	<50	<50	<50	<50	<50	2000	<50	<50	<50	<100	<50	<50	<50
WCC-05S	1/23/2001	1	<1	<1	<1	<1	<1	5.4	<1	<1	0.21 J	<2	<1	<1	<1
WCC-06S	1/22/2001	100	<100	770	<100	<100	<100	79 J	4600	<100	<100	<100	<200	<100	<100
WCC-07S	1/24/2001	5	<5	<5	<5	<5	<5	200	<5	<5	<5	<5	<10	<5	<5
WCC-07S DUP	1/24/2001	2.5	<2.5	<2.5	1.3 J	<2.5	<2.5	130	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5
WCC-09S	1/19/2001	1	<1	<1	<1	<1	<1	1.3	6.52	<1	<1	<1	<2	<1	<1
WCC-10S	1/18/2001	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	24	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5
WCC-11S	1/23/2001	1	<1	<1	<1	<1	0.45 J	13	<1	<1	<1	<1	<1	<1	<1
WCC-11S DUP	1/23/2001	1	<1	<1	<1	<1	0.41 J	12	<1	<1	<1	<1	<2	<1	<1
WCC-12S	1/22/2001	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	18	40	<2.5	<2.5	<2.5	<5	<2.5	<2.5
WCC-12S DUP	1/22/2001	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	17	39	<2.5	<2.5	<2.5	<5	<2.5	<2.5
DAC-P1	1/18/2001	250	<250	<250	<250	<250	<250	<200	<250	<250	<250	<250	<250	<250	<250
TMW-01	1/29/2001	5	<5	<5	<5	1.2 J	<5	140	<5	<5	<5	<5	<10	<5	<5
TMW-02	2/3/2001	250	<250	960	<250	<250	1400	24000	<250	<250	<250	<250	<250	<250	<250
TMW-03	1/29/2001	50	<50	<50	<50	<50	<50	76	<50	<50	<50	<50	<100	<50	<50
TMW-04	1/29/2001	50	<50	<50	<50	<50	<50	19 J	1100	<50	<50	<50	<100	<50	<50
TMW-04 DUP	1/29/2001	50	<50	<50	<50	<50	<50	20 J	1200	<50	<50	<50	<100	<50	<50
TMW-05	1/23/2001	50	<50	<50	<50	<50	<50	480	<50	<50	<50	<50	<100	<50	<50
TMW-06	1/29/2001	5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<10	<5	<5
TMW-07	1/22/2001	25	<25	<25	<25	<25	<25	14 J	640	<25	<25	<25	<50	<25	<25
TMW-08	1/25/2001	50	<50	<50	<50	<50	<50	39 J	2189	<50	<50	<50	<100	<50	<50
TMW-09	1/29/2001	12	<12	<12	<12	<12	<12	170	<12	<12	<12	<12	<12	<12	<12
TMW-10	1/19/2001	12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
TMW-10	5/10/2001	1	<1	1.7	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TMW-11	1/24/2001	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TMW-12	1/22/2001	25	<25	<25	<25	<25	<25	18 J	<25	<25	<25	<25	<50	<25	<25
TMW-13	5/10/2001	1	<1	2.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TMW-14	1/25/2001	1	<1	<1	<1	<1	<1	0.92 J	<1	<1	<1	<1	0.3 J	<2	<1
TMW-15	1/25/2001	1	<1	<1	<1	<1	<1	0.83 J	<1	<1	<1	<1	0.28 J	<2	<1
TMW-16	1/25/2001	1	<1	<1	<1	<1	<1	0.29 J	<1	<1	<1	<1	0.7 J	<2	<1
BL-01	1/18/2001	1	<1	<1	<1	<1	<1	0.36 J	<1	<1	<1	<1	<1	<2	<1
BL-02	1/19/2001	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1
BL-03	1/18/2001	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25
XMW-09	1/29/2001	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<100	<50	<50
XMW-18	1/24/2001	25	<25	<25	<25	<25	<25	20 J	<25	<25	<25	<25	<50	<25	<25
XMW-19	3/21/2001	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

Notes: J = Estimated

Table 4
Volatile Organic Compounds by EPA 8260B - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Dilution Factor	1,2-Dichloro ethane	1,3,5-Trimethyl benzene	1,3-Dichloro benzene	2,2-Dichloro propane	2-Chloro benzene	2-Chloro ethyl vinyl ether	2-Chloro toluene	2-Hexanone	4-Chloro toluene	4-Methyl-2-pentanone	Acetone	Acrolein	Acrylo nitrile	Benzene
WCC-03S	2/3/2001	500	100 J	<500	<500	<500	<500	<2500	<500	<500	<5000	<10000	<10000	<10000	3100	270 J
WCC-03D	2/3/2001	2	<1	<2	<2	<2	<10	<2	<10	<2	<40	<40	<1000	<1000	<1000	<2
WCC-04S	1/24/2001	50	<25	<50	<50	<50	<50	<250	<50	<250	<500	<500	<500	<500	<500	<50
WCC-05S	1/23/2001	1	<0.5	<1	<1	<1	<5	<5	<1	<5	<10	<20	<20	<20	<20	<1
WCC-06S	1/22/2001	100	<50	<100	<100	<100	<100	<500	<100	<500	<1000	<2000	<2000	<2000	<2000	<100
WCC-07S	1/24/2001	5	<2.5	<5	<5	<5	<5	<25	<5	<25	<5	<25	<50	<50	<50	<5
WCC-07S DUP	1/24/2001	2.5	<1.2	<2.5	<2.5	<2.5	<2.5	<12	<12	<2.5	<12	<2.5	<25	<25	<25	<2.5
WCC-09S	1/19/2001	1	<0.5	<1	<1	<1	<5	<5	<1	<5	<10	<20	<20	<20	<20	<1
WCC-10S	1/18/2001	2.5	<1.2	<2.5	<2.5	<2.5	<2.5	<12	<12	<2.5	<12	<2.5	<25	<25	<25	<2.5
WCC-11S	1/23/2001	1	<0.5	<1	<1	<1	<1	<5	<5	<1	<5	<10	<20	<20	<20	<1
WCC-11S DUP	1/23/2001	1	<0.5	<1	<1	<1	<5	<5	<1	<5	<10	<20	<20	<20	<20	<1
WCC-12S	1/22/2001	2.5	<1.2	0.51 J	<2.5	<2.5	<2.5	<12	<12	<2.5	<12	<2.5	<25	<25	<25	<2.5
WCC-12S DUP	1/22/2001	2.5	<1.2	<2.5	<2.5	<2.5	<2.5	<12	<12	<2.5	<12	<2.5	<25	<25	<25	<2.5
DAC-P1	1/18/2001	250	<120	<250	<250	<250	<250	<1200	<250	<1200	<250	<1200	<2500	<2500	<5000	<250
TMW-01	1/29/2001	5	<2.5	<5	<5	<5	<5	<25	<5	<25	<5	<25	<50	<50	<50	<5
TMW-02	2/3/2001	250	74 J	<250	<250	<250	<250	18000	<1200	<250	<250	<250	<2500	<2500	<5000	<250
TMW-03	1/29/2001	50	<25	<50	<50	<50	<50	<250	<50	<250	<50	<250	<500	<500	<1000	<50
TMW-04	1/29/2001	50	12 J	<50	<50	<50	<50	<250	<50	<250	<50	<250	<500	<500	<1000	<50
TMW-04 DUP	1/29/2001	50	<25	<50	<50	<50	<50	<250	<50	<250	<50	<250	<500	<500	<1000	<50
TMW-05	1/23/2001	50	<2.5	<50	<50	<50	<50	<250	<50	<250	<50	<250	<500	<500	<1000	<50
TMW-06	1/29/2001	5	<2.5	<5	<5	<5	<5	<25	<5	<25	<5	<25	<50	<50	<100	<5
TMW-07	1/22/2001	25	<12	<25	<25	<25	<25	<120	<25	<120	<25	<120	<250	<250	<500	<25
TMW-08	1/25/2001	50	<25	<50	<50	<50	<50	<250	<50	<250	<50	<250	<500	<500	<1000	<50
TMW-09	1/29/2001	12	<6.2	<12	<12	<12	<12	<62	<62	<12	<62	<12	<250	<250	<250	<12
TMW-10	5/10/2001	12	<6.2	<12	<12	<12	<12	<62	<62	<12	<62	<12	<250	<250	<250	<12
TMW-11	1/24/2001	10	<0.5	<1	<1	<1	<1	<5	<5	<1	<5	<1	<5	<5	<5	<5
TMW-12	1/22/2001	25	<12	<25	<25	<25	<25	<120	<25	<120	<25	<120	<250	<250	<500	<25
TMW-13	5/10/2001	1	<1	<2	<2	<2	<1	<10	<5	<10	<50	<10	<50	<100	<200	<10
TMW-14	1/25/2001	1	<0.5	<1	<1	<1	<1	<25	<25	<120	<25	<120	<250	<250	<500	<25
TMW-15	1/25/2001	1	<0.5	<1	<1	<1	<1	<5	<5	<1	<5	<1	<5	<10	<20	<1
TMW-16	1/25/2001	1	<0.5	0.34 J	<1	<1	<1	<5	<5	<1	<5	<1	<5	<10	<20	<1
BL-01	1/18/2001	1	<0.5	<1	<1	<1	<1	<5	<5	<1	<5	<1	<5	<10	<20	<1
BL-02	1/19/2001	1	1	<1	<1	<1	<1	<5	<5	<1	<5	<1	<5	<10	<20	<1
BL-03	1/18/2001	25	<12	<25	<25	<25	<25	<120	<25	<120	<25	<120	<250	<250	<500	<25
XMW-09	1/29/2001	50	<25	<50	<50	<50	<50	<250	<50	<50	<50	<50	<250	<250	<500	<50
XMW-18	1/24/2001	25	<12	<25	<25	<25	<25	<120	<25	<120	<25	<120	<250	<250	<500	<25
XMW-19	3/21/2001	2	<1	<2	<2	<2	<2	<10	<2	<2	<10	<2	<10	<20	<40	2 J

Notes: J = Estimated

Table 4
Volatile Organic Compounds by EPA 8260B - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Dilution Factor	Bromo benzene	Bromo chloro methane	Bromo dichloro methane	Bromo form	Bromo methane	Carbon disulfide	Carbon teta chloride	Chloro benzene	Chloro ethane	Chloro form	Chloro methane	cis-1,2-Dichloro ethene	Dibromo chloro methane	Dichloro difluoro methane	Ethyl benzene	Hexa chloro butadiene
			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
WCC-03S	2/3/2001	500	<500	<500	<500	<500	<1000	<250	<500	<1000	<250	<4	<4	<4	<4	<500	<500	<500
WCC-03D	2/3/2001	2	<2	<2	<2	<2	<4	<2	<2	<4	<2	<100	<50	<100	<50	<2	<2	<2
WCC-04S	1/24/2001	50	<50	<50	<50	<50	<100	<50	<25	<50	<100	<50	<50	<50	<50	<50	<50	<50
WCC-05S	1/23/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	<1	<2	<1	<1	<1	<1	<1
WCC-06S	1/22/2001	100	<100	<100	<100	<100	<200	<100	<50	<100	<200	<100	<200	<100	<100	<100	<100	<100
WCC-07S	1/24/2001	5	<5	<5	<5	<5	<10	<5	<2.5	<5	<10	<5	<5	<5	<5	<5	<5	<5
WCC-07S DUP	1/24/2001	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<5	<5	<5	<2.5	<2.5	<2.5
WCC-09S	1/19/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	<2	<6.8	<2	<1	<1	<1	<1
WCC-10S	1/18/2001	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<5	<5	<5	<2.5	<2.5	<2.5
WCC-11S	1/23/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	<0.22 J	<2	<9	<1	<1	<1	<1
WCC-11S DUP	1/23/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	<0.2 J	<2	<8.5	<1	<1	<1	<1
WCC-12S	1/22/2001	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2 J	<5	<1.4 J	<2.5	<2.5	<2.5
WCC-12S DUP	1/22/2001	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<1.9 J	<5	<1.4 J	<2.5	<2.5	<2.5
DAC-P1	1/18/2001	250	<250	<250	<250	<250	<500	<370	<120	<250	<500	<250	<500	<250	<250	<250	<250	<250
TMW-01	1/29/2001	5	<5	<5	<5	<5	<10	<5	<2.5	<5	<10	<4.3 J	<10	<5	<5	<5	<5	<5
TMW-02	2/3/2001	250	<250	<250	<250	<250	<500	<250	<250	<500	<250	<170 J	<500	<1000	<250	<250	<250	<250
TMW-03	1/29/2001	50	<50	<50	<50	<50	<100	<50	<25	<50	<100	<50	<50	<50	<50	<50	<50	<50
TMW-04	1/29/2001	50	<50	<50	<50	<50	<100	<50	<25	<50	<100	<14 J	<100	<29 J	<50	<50	<50	<50
TMW-04 DUP	1/29/2001	50	<50	<50	<50	<50	<100	<50	<25	<50	<100	<15 J	<100	<31 J	<50	<50	<50	<50
TMW-05	1/23/2001	50	<50	<50	<50	<50	<100	<50	<25	<50	<100	<15 J	<100	<50	<50	<50	<50	<50
TMW-06	1/29/2001	5	<5	<5	<5	<5	<10	<5	<2.5	<5	<10	<10	<270	<10	<5	<5	<5	<5
TMW-07	1/22/2001	25	<25	<25	<25	<25	<50	<50	<25	<50	<50	<50	<50	<50	<25	<25	<25	<25
TMW-08	1/25/2001	50	<50	<50	<50	<50	<100	<50	<25	<50	<100	<15 J	<100	<63	<50	<50	<50	<50
TMW-09	1/29/2001	12	<12	<12	<12	<12	<25	<12	<6.2	<12	<25	<12	<12	<25	<12	<12	<12	<12
TMW-10	5/10/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	<2.7	<2	<1	<1	<1	<1	<1
TMW-11	1/24/2001	10	<10	<10	<10	<10	<20	<10	<5	<10	<20	<20	<20	<10	<10	<10	<10	<10
TMW-12	1/22/2001	25	<25	<25	<25	<25	<50	<50	<25	<50	<50	<50	<50	<50	<25	<25	<25	<25
TMW-13	5/10/2001	1	<2	<1	<2	<1	<4	<0.8 J	1.1	<1	<4	<7.1	<4	<1	<2	<1	<1	<1
TMW-14	1/25/2001	1	<1	<1	<1	<1	<2	<1	1.1	<1	<2	5.4	<2	<1	<1	<1	0.26 J	<1
TMW-15	1/25/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	8.7	<2	<1	<1	<1	0.46 J	<1
TMW-16	1/25/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	0.31 J	<2	<1	<1	<1	0.63 J	<1
BL-01	1/18/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	0.25 J	<2	<1	<1	<1	<1	<1
BL-02	1/19/2001	1	<1	<1	<1	<1	<2	<1	<0.5	<1	<2	1.3	<2	<1	<1	<1	0.94 J	<1
BL-03	1/18/2001	25	<25	<25	<25	<25	<50	<25	<12	<50	<25	<50	<25	<50	<25	<25	<25	<25
XMW-09	1/29/2001	50	<50	<50	<50	<50	<100	<25	<25	<100	<100	2400	<100	<50	<50	<50	<50	<50
XMW-18	1/24/2001	25	<25	<25	<25	<25	<50	<50	<25	<50	<50	49	<50	<50	<25	<25	<25	<25
XMW-19	3/21/2001	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<4	<4	<2	<2	<2	<2

Notes: J = Estimated

Table 4
Volatile Organic Compounds by EPA 8260B - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Dilution Factor	Iodo methane	Isopropyl ether	Methyl tert-butyl ether	Methylene chloride	n-Butyl benzene	n-Propyl benzene	p-isopropyl tolune	sec-Butyl benzene	Styrene	t-Butanol	Tert-amyl methyl ether	Tert-butyl ethyl ether	tert-Butyl benzene	Tetra chloro ethene	Tetra hydro furan
WCC-03S	2/3/2001	500	<1000	<500	<500	<500	<500	<500	<500	<500	<500	<1000	<500	<500	<500	<500	<500
WCC-03D	2/3/2001	2	<4	<4	<2	<2	<2	<2	<2	<2	<4	<4	<2	<2	<2	<20	<20
WCC-04S	1/24/2001	50	<100	<100	<50	<50	<50	<50	<50	<50	<50	<100	<100	<50	<50	<500	<500
WCC-05S	1/23/2001	1	<2	<2	<1	<1	<1	<1	<1	<1	<1	<25	<2	<1	<1	<10	<10
WCC-06S	1/22/2001	100	<200	<200	<100	<100	<100	<100	<100	<100	<100	<200	<200	<200	<200	<1000	<1000
WCC-07S	1/24/2001	5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50
WCC-07S DUP	1/24/2001	2.5	<5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-08S	1/19/2001	1	<2	<2	<1	<1	<1	<1	<1	<1	<1	<25	<2	<1	<1	<10	<10
WCC-10S	1/18/2001	2.5	<5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	1/23/2001	1	<2	<2	<1	<1	<1	<1	<1	<1	<1	<25	<2	<1	<1	<1	<1
WCC-11S DUP	1/23/2001	1	<2	<2	<1	<1	<1	<1	<1	<1	<1	<25	<2	<1	<1	<10	<10
WCC-12S	1/22/2001	2.5	<5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-12S DUP	1/22/2001	2.5	<5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
DAC-P1	1/18/2001	250	<500	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
TMW-01	1/29/2001	5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10
TMW-02	2/3/2001	250	<500	<250	<250	51 J	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
TMW-03	1/29/2001	50	<100	<100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<500
TMW-04	1/29/2001	50	<100	<100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<500
TMW-04 DUP	1/29/2001	50	<100	<100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<500
TMW-05	1/23/2001	50	<100	<100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<500
TMW-06	1/29/2001	5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50
TMW-07	1/22/2001	25	<50	<50	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TMW-08	1/25/2001	50	<100	<100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<500
TMW-09	1/29/2001	12	<25	<25	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
TMW-10	1/19/2001	12	<25	<25	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
TMW-10	5/10/2001	1	<2	<2	0.22 J	<1	61	<1	<1	<1	<1	<10	<10	<10	<10	<10	<10
TMW-11	1/24/2001	10	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TMW-12	1/22/2001	25	<50	<50	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TMW-13	5/10/2001	1	<4	<2	<1	110 E	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BL-01	1/18/2001	1	<2	<2	<1	0.57 J	<1	0.4 J	0.39 J	<1	<1	<1	<1	<1	<1	<1	<1
BL-02	1/19/2001	1	<2	<2	<1	1	<1	<1	<25	<25	<25	<25	<25	<25	<2	<2	<2
BL-03	1/18/2001	25	<50	<50	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
XMW-09	1/29/2001	50	<100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<500
XMW-18	1/24/2001	25	<50	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
XMW-19	3/21/2001	2	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

Notes: J = Estimated

Table 4
Volatile Organic Compounds by EPA 8260B - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Dilution Factor	Toluene	trans-1,2-Dichloroethene		Trichlorofluoroethylene	Trichloromethane	Vinyl acetate	Vinyl chloride	Xylenes (total)
				ug/L	ug/L					ug/L
WCC-03S	2/3/2001	500	44000	590	550	<1000	<250	<250	<250	<500
WCC-03D	2/3/2001	2	20	<2	7.4	<4	<1	<4	<1	J
WCC-04S	1/24/2001	50	<50	15 J	1100	<100	<250	<25	<50	
WCC-05S	1/23/2001	1	2.8	<1	1.7	0.52 J	<0.5	<2	<1	
WCC-06S	1/22/2001	100	1200	120	1700	<200	<500	<50	<100	
WCC-07S	1/24/2001	5	9	<5	140	<10	<25	<2.5	<5	
WCC-07S DUP	1/24/2001	2.5	8.8	<2.5	140	<12	<1.2	<2.5		
WCC-09S	1/19/2001	1	8.7	<1	73	0.54 J	<5	<0.5	<1	
WCC-10S	1/18/2001	2.5	<2.5	<2.5	94	<5	<12	<1.2	<2.5	
WCC-11S	1/23/2001	1	2.3	0.32 J	64	<2	<0.5	<2	<1	
WCC-11S DUP	1/23/2001	1	2	<1	60	<2	<0.5	<2	<1	
WCC-12S	1/22/2001	2.5	4.9	<2.5	130	<5	<1.2	<5	<2.5	
WCC-12S DUP	1/22/2001	2.5	4.7	<2.5	130	<5	<1.2	<5	<2.5	
DAC-P1	1/18/2001	250	<250	<250	10000	<500	<1200	<120	<250	
TMW-01	1/29/2001	5	5.3	<5	380	26	<2.5	<10	<5	
TMW-02	2/3/2001	250	960	510	21000	<500	<1200	<120	<250	
TMW-03	1/29/2001	50	20 J	<50	2200	<100	<25	<100	<50	
TMW-04	1/29/2001	50	<50	21 J	2000	<100	<250	<25	<50	
TMW-04 DUP	1/29/2001	50	15 J	23 J	2000	<100	<250	<25	<50	
TMW-05	1/23/2001	50	<50	<50	2800	<100	<250	<25	<50	
TMW-06	1/29/2001	5	14	<5	81	<10	<2.5	<10	<5	
TMW-07	1/22/2001	25	17 J	17 J	1700	<50	<12	<50	<25	
TMW-08	1/25/2001	50	18 J	51	2500	<100	<250	<25	<50	
TMW-09	1/29/2001	12	19	<12	850	<25	<6.2	<25	<12	
TMW-10	1/19/2001	12	13	<12	850	<25	<62	<6.2	<12	
TMW-10	5/10/2001	1	<1	<1	3.6	1.2 J	<5	<0.5	<1	
TMW-11	1/24/2001	10	13	<10	21	<20	<50	<5	<10	
TMW-12	1/22/2001	25	<25	<25	310	<50	<120	<12	<25	
TMW-13	5/10/2001	1	<1	<1	64	<2	<10	<1	<2	
TMW-14	1/25/2001	1	16	<1	9.2	<2	<5	<0.5	1.2	
TMW-15	1/25/2001	1	15	<1	29	<2	<5	<0.5	1.8	
TMW-16	1/25/2001	1	12	<1	2.5	<2	<5	<0.5	2.3	
BL-01	1/18/2001	1	7.3	<1	2.3	<2	<5	<0.5	<1	
BL-02	1/19/2001	1	<1	<1	4	0.72 J	<5	<0.5	<1	
BL-03	1/18/2001	25	<25	<25	810	<50	<120	<12	<25	
XMW-09	1/28/2001	50	<50	<50	<100	<25	<100	<50	<100	
XMW-13	1/24/2001	25	<25	<25	1300	<50	<120	<12	<25	
XMW-19	3/21/2001	2	3.7 J	<2	21	<4	<1	<8	1.4 J	

Notes: J = Estimated

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCA	1-Methylbenzene	Acetone	Benzene	Carbon disulfide	Chloroform	cis-1,2-DCE	trans-1,2-DCE	MEK	Methylene chloride	MBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichlorofluoromethane	
WCC-1S	3/27/1987	300	2,800				85				39	75									4,800	5,500	
WCC-1S	4/13/1987	23	180	3,700			110				<20	<20									2,000	5,200	
WCC-1S	11/12/1987						160				<30	41									2,000	<30	
WCC-1S	4/13/1988	20	67	2,500							<20	<20									2,000	<30	
WCC-1S	7/13/1988	30	<30	1,500							<30	<30									2,000	<30	
WCC-1S	8/23/1988			1,300							<30	<30									2,000	<30	
WCC-1S	11/18/1989										<30	<30									2,000	<30	
WCC-1S	6/17/1992	<50		1,700							<50	<5									2,000	<30	
WCC-1S	9/23/1992	13	16	<1	1,500						<5	37	22								2,000	<30	
WCC-1S	12/9/1992	<30	<30	1,500							<30	<30									2,000	<30	
WCC-1S	3/18/1993	13	15	<2	1,000						<5	14	<1	14	<5						2,000	<30	
WCC-1S	6/8/1993	<20	<20	1,200							<20	<20									2,000	<30	
WCC-1S	8/23/1993	<20	<20	1,700							<20	<20									2,000	<30	
WCC-1S	11/19/1993	<20	<20	1,800							<20	<20									2,000	<30	
WCC-1S	2/24/1994	<20	<20	1,800							<20	<20									2,000	<30	
WCC-1S	6/13/1994	11	11	<20	1,000						<10	<20									2,000	<30	
WCC-1S	9/8/1994	<40	<40	1,400							<40	<40									2,000	<30	
WCC-1S	12/22/1994	23	24	3,000							<20	<20									2,000	<30	
WCC-1S	3/14/1995	<20	<40	3,000							<20	<20									2,000	<30	
WCC-1S	6/13/1995	20	<20	2,000							<20	<20									2,000	<30	
WCC-1S	9/7/1995	20	<20	2,700							<20	<20									2,000	<30	
WCC-1S	12/15/1995	22	22	<5	1,800						<10	51	<5	16	<20						2,000	<30	
WCC-1S	5/8/1996	28	22	<2	2,800						<2	42	<2	17	34	40	<2	<2	<2	<2	2,000	<30	
WCC-1S	3/4/1996	27	24	<20	3,000						<20	<20									2,000	<30	
WCC-1S	8/7/1996	27	24	<20	3,000						<20	<20									2,000	<30	
WCC-1S	9/19/1996	<50	<50	2,500							<5	7	<5	12	28	39	<10	<5	<5	<5	<2000	<30	
WCC-1S	12/15/1996	28	22	3,200							<50	<50									2,000	<30	
WCC-1S	12/18/1996	<50	<50	2,800							<2	42	<2	16	33	40	<10	<20	<20	<20	2,000	<30	
WCC-1S	9/7/1996	<50	<50	2,800							<50	<50									2,000	<30	
WCC-1S	12/18/1996	<50	<50	3,200							<50	<50									2,000	<30	
WCC-1S	5/8/1997	<50	<50	3,200							<50	<50									2,000	<30	
WCC-1S	7/8/1997	<50	<50	3,900							<50	<50									2,000	<30	
WCC-1S	7/24/1997	<50	<50	2,800							<50	<50									2,000	<30	
WCC-1S	8/6/1997	<50	<50	3,800							<50	<50									2,000	<30	
WCC-1S	8/22/1997	<50	<50	3,800							<50	<50									2,000	<30	
WCC-1S	9/5/1997	<50	<50	3,500							<50	<50									2,000	<30	
WCC-1S	9/7/1997	<50	<50	3,400							<50	<50									2,000	<30	
WCC-1S	12/18/1997	<50	<50	2,800							<50	<50									2,000	<30	
WCC-1D	7/25/1989	<1	<1	<1							<1	<1	<1	<1	1	1	<5	<5	2	1	1		
WCC-1D	8/23/1989	<1	1	<1							<1	<1	<1	<1	1	1	<5	<5	2	1	1		
WCC-1D	11/15/1991																			40	20		
WCC-1D	6/15/1992	<25	83								<50	<25									230	<25	
WCC-1D	6/15/1992	<25	83								<50	<25									210	<25	
WCC-1D	9/22/1992	<1	8	<1	180						<1	<1	<1	<1	2	1	<5	<5	1	44	1		
WCC-1D	12/7/1992	<1	8	<1	150						<1	<1	<1	<1	1	1	<5	<5	1	44	1		
WCC-1D	3/16/1993	<2	19	<2	200						<2	<2	<2	<2	3	2	<5	<5	1	44	1		
WCC-1D	8/8/1993	<10	<14	<20	500						<10	<10	<10	<10	10	10	<10	<10	10	10	10		
WCC-1D	8/8/1993	<4	17	<8	480						<4	<4	<4	<4	4	4	<4	<4	4	4	4		

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCA	1-Methylbenzene	Ethylbenzene	Aacetone	Benzene	Carbon tetrachloride	Chloroform	trans-1,2-DCE	MEK	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichlorofluoromethane
WCC-1D	8/24/1993	<2	16	<4	540	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	11/18/1993	<2	16	<4	880	<2	<40	<40	<40	<40	<2	3	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	2/23/1994	<2	3	<4	140	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	6/10/1994	<2	3	<4	230	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	9/8/1994	<2	3	<4	210	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	12/22/1994	<2	10	<4	800	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	3/13/1995	<2	4	<4	240	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	6/13/1995	<2	2	<2	170	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	9/3/1995	<2	5	<5	150	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	12/16/1995	<2	2	<2	12	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	2/28/1996	<2	5	<5	15	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	Dup	2/28/1996	<2	5	15	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	8/6/1996	<2	4	<4	45	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<2	<2	<2	<2	<2	<2
WCC-1D	9/18/1996	<1	<1	<1	1	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	Dup	9/18/1996	<1	<0.5	1	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	12/18/1996	<1	<1	<1	1	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	5/7/1997	<1	<1	<1	1	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	7/8/1997	<1	0	<1	10	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	7/23/1997	<1	0	<1	10	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	8/5/1997	<1	0	<1	10	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	8/20/1997	<1	0	<1	10	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	9/4/1997	<1	0	<1	12	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-1D	9/17/1997	<1	0	<1	12	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	11/2/1987	5	5	2	1	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	7/13/1988	<1	<1	<1	1	<1	<40	<40	<40	<40	<2	1	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	8/23/1988	<1	<1	<1	30	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	11/18/1989	<5	30	2	27	<2	<40	<40	<40	<40	<2	32	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	6/16/1990	<5	33	2	24	<2	<40	<40	<40	<40	<2	37	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	9/22/1992	18	48	16	41	<2	<40	<40	<40	<40	<2	26	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	Dup	9/22/1992	19	49	41	<2	<40	<40	<40	<40	<2	19	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	12/8/1992	6	45	45	45	<2	<40	<40	<40	<40	<2	30	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	Dup	12/8/1992	6	45	45	<2	<40	<40	<40	<40	<2	30	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	3/17/1993	2	2	2	2	<2	<40	<40	<40	<40	<2	2	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	6/7/1993	15	40	16	41	<2	<40	<40	<40	<40	<2	15	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	7/13/1993	19	49	41	41	<2	<40	<40	<40	<40	<2	27	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	8/23/1993	6	45	45	45	<2	<40	<40	<40	<40	<2	32	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	11/18/1993	2	2	2	2	<2	<40	<40	<40	<40	<2	33	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	2/24/1994	2	2	2	2	<2	<40	<40	<40	<40	<2	34	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	6/10/1994	2	2	2	2	<2	<40	<40	<40	<40	<2	35	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	12/22/1994	2	2	2	2	<2	<40	<40	<40	<40	<2	36	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	3/13/1995	2	2	2	2	<2	<40	<40	<40	<40	<2	37	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	6/12/1995	2	2	2	2	<2	<40	<40	<40	<40	<2	38	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	9/6/1995	2	2	2	2	<2	<40	<40	<40	<40	<2	39	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	12/15/1995	2	2	2	2	<2	<40	<40	<40	<40	<2	40	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	3/14/1996	2	2	2	2	<2	<40	<40	<40	<40	<2	41	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	42	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	43	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	44	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	45	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	46	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	47	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	48	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	49	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	50	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	51	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2	<2	<40	<40	<40	<40	<2	52	<40	<4	<20	<1	<1	<1	<1	<1	<1
WCC-2S	WCC-2S	2	2	2	2																

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1-DCA	1,1,1-TCA	1,1,2-TCA	1,2-DCA	1-Methyl benzene	ethyl Acetone Benzene	Carbon disulfide	Chloro form	cis-1,2-DCE	trans-1,2-DCE	MEK	Methylene chloride	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichloro fluoro methane
WCC-2S	6/6/1996	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
WCC-2S	9/19/1996	<1	<1	<1	<1	23	<1	1,1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
WCC-2S	12/18/1996	<2	<2	<2	<2	30	<2	<2	<2	<2	<2	<20	<20	<2	<20	<2	<2	<2	<2	<2
WCC-2S	5/7/1997	<1	<1	<1	<1	12	<1	<1	<5	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1
WCC-2S	Dup	5/7/1997	<1	<1	<1	11	<1	<10	<1	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1
WCC-3S	1/1/2/1987	110000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	
WCC-3S	1/1/2/1987	1000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	
WCC-3S	7/13/1989	<500	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	54000	
WCC-3S	8/23/1989	<1,000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	78000	
WCC-3S	11/14/1981	400	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	
WCC-3S	6/17/1992	<5,000	13000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	
WCC-3S	9/23/1992	<500	7800	<500	22,000	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	
WCC-3S	12/9/1992	<500	5800	<500	21,000	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	
WCC-3S	3/18/1993	650	21,000	55	20,000	100	<10	<50	240	<25	120	650	640	<50	<50	<50	<10	120	<25	
WCC-3S	Dup	3/18/1993	510	22,000	60	20,000	95	<10	<50	280	<25	110	640	670	<50	<50	<50	110	<25	
WCC-3S	6/8/1993	420	5900	<200	18,000	<100	<100	<2,000	210	<100	<100	520	480	<2,000	<2,000	<2,000	78000	<100	<100	
WCC-3S	8/25/1993	500	10000	<800	21,000	<400	<400	<8,000	<400	<400	<400	410	370	<8,000	<8,000	<8,000	50000	<100	<100	
WCC-3S	Dup	8/25/1993	580	9500	52	20,000	88	<10	<200	250	<10	700	710	860	<10	48000	<10	9700	21	
WCC-3S	11/19/1993	890	19000	<200	26,000	<200	<200	<4,000	280	<200	<200	1100	840	<4,000	<4,000	<4,000	47000	<200	<200	
WCC-3S	2/24/1994	310	9400	<100	15,000	<200	<200	<4,000	<200	<200	<200	2500	360	<4,000	<4,000	<4,000	15000	<200	<200	
WCC-3S	6/13/1994	310	6200	<100	13,000	<200	<200	<4,000	<200	<200	<200	4100	380	<4,000	<4,000	<4,000	820	<200	<200	
WCC-3S	9/5/1994	520	9000	<1000	23,000	<500	<500	<10000	<500	<500	<500	7700	600	<10000	<10000	<10000	43000	<500	<1500	
WCC-3S	Dup	98/5/1994	580	9800	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	
WCC-3S	12/22/1994	440	6700	<100	20,000	<200	<200	<4,000	200	<200	<200	4700	530	<4,000	<4,000	<4,000	3400	<200	<200	
WCC-3S	3/14/1995	570	8700	<400	24,000	<200	<200	<4,000	230	<200	<200	6200	670	<4,000	<4,000	<4,000	4800	<200	<200	
WCC-3S	6/13/1995	450	4800	<400	22,000	<400	<8,000	<400	400	<400	<400	6300	500	<8000	<8000	<8000	39000	<100	<100	
WCC-3S	9/7/1995	480	4100	64	13,000	99	<5	39	220	<5	76	6000	520	<200	23	4600	<5	910	18	
WCC-3S	12/16/1995	350	3100	22	12,000	41	<2	130	<2	<2	45	4400	400	<2	<2	670	23000	8	42	
WCC-3S	3/4/1996	230	1,900	<50	6,400	<50	<50	<100	100	<50	<50	3,200	280	<100	<50	200	15,000	<50	<100	
WCC-3S	9/19/1996	600	3500	<500	20,000	<500	<500	<5,000	<500	<2,500	<2,500	6300	860	<5,000	<500	<500	29000	<500	<500	
WCC-3S	12/19/1996	380	2300	<250	16,000	<250	<250	<2,500	<250	<2,500	<2,500	4100	460	<2,500	<2,500	<2,500	23000	<200	<200	
WCC-3S	Dup	5/8/1997	140	470	520	120	5,300	<120	<120	<120	<120	2000	180	<1200	<120	230	120	<120	<120	
WCC-3S	7/8/1997	<250	1100	<250	5,200	<250	<250	<2,500	<250	<2,500	<2,500	2900	280	<2500	<2500	<2500	2500	<250	<250	
WCC-3S	7/24/1997	350	1900	<250	14,000	<250	<2,500	<2,500	<2,500	<2,500	<2,500	4000	310	<2500	<2500	<2500	400	14000	<250	
WCC-3S	B/6/1997	310	1500	<250	12,000	<250	<2,500	<2,500	<2,500	<2,500	<2,500	3800	310	<2500	<2500	<2500	420	22000	<250	
WCC-3S	8/22/1997	410	2200	<250	16,000	<250	<2,500	<2,500	<2,500	<2,500	<2,500	3900	350	<2500	<2500	<2500	420	18000	<250	
WCC-3S	9/5/1997	350	1800	<250	13,000	<250	<2,500	<2,500	<2,500	<2,500	<2,500	4800	540	<2500	<2500	<2500	3700	23000	<250	
WCC-3S	9/18/1997	300	1500	<250	12,000	<250	<2,500	<2,500	<2,500	<2,500	<2,500	3500	360	<2500	<2500	<2500	3500	18000	<250	
WCC-3S	Dup	9/18/1997	300	1800	<250	13,000	<250	<2,500	<2,500	<2,500	<2,500	<2,500	3600	380	<2500	<2500	<2500	280	18000	<250
WCC-3S	9/23/1998	870	4,000	<250	33,000	870	<250	<2,500	<2,500	<2,500	<2,500	9,400	980	<2500	<2500	<2500	1250	59,000	<250	
WCC-3S	10/22/1998	1100	4700	<250	41,000	1100	<250	<2,500	<2,500	<2,500	<2,500	11000	1300	<2500	<2500	<2500	490	88000	<250	
WCC-3S	3/6/1999	500	1,900	<250	20,000	500	<250	<2,500	<2,500	<2,500	<2,500	4,900	510	<2500	<2500	<2500	640	42,000	<250	
WCC-3S	7/18/1999	780	2700	<250	32,000	780	<250	<2,500	<2,500	<2,500	<2,500	8600	1000	<2500	<2500	<2500	810	54,000	<250	
WCC-3S	6/28/2000	630	2400	<125	25,000	<125	<300	<125	<125	<125	<125	7600	840	<250	<250	<250	770	44,000	<250	
WCC-3S	2/3/2001	550	1100	<500	17,000	<500	<500	<500	<500	<500	<500	4800	500	<500	<500	<500	550	44,000	<500	

Units = ug/L

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,1-TCA	1,1,1-TCA	1,1,2-TCA	1,1,2-TCA	1-Methylbenzene	Acetone	Benzene	Carbon disulfide	Chloroform	Carbon tetrachloride	1,2-DCE	trans-1,2-DCE	Methyl chloride	MEK	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichloro fluoro methane
WCC-3D	1/14/1981	60	20																			
WCC-3D	6/16/1982	<5	80	510	<1	21	<1	120	<1	950	<2	<10	<2	<2	<1	<1	<1	<1	<1	<1	<1	
WCC-3D	9/22/1982	<1	27	<1	130	<1	2000	<2	1,000	<2	<10	<2	<2	<2	<1	<1	<1	<1	<1	<1	<5	
WCC-3D	12/7/1982	<1	130	<1	110	<4	110	<2	120	<2	<10	<2	<2	<2	<1	<1	<1	<1	<1	<1	<5	
WCC-3D	3/16/1983	6	2000	<2	2000	<2	1,000	<2	1,000	<2	<10	<2	<2	<2	<2	<1	<1	<1	<1	<1	<5	
WCC-3D	WCC-3D	Dup	6/8/1983	<2	10	<4	10	<4	120	<2	<10	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	
WCC-3D	8/24/1983	<2	10	<4	10	<4	10	<2	120	<2	<10	<2	<2	<2	<2	<1	<1	<1	<1	<1	<5	
WCC-3D	11/16/1983	<2	410	<4	610	<2	410	<4	610	<2	<10	<2	<2	<2	<2	<1	<1	<1	<1	<1	<2	
WCC-3D	WCC-3D	Dup	11/18/1983	<4	840	<4	840	<4	840	<4	<80	<4	<4	<4	<4	<1	<1	<1	<1	<1	<4	<4
WCC-3D	2/23/1984	0.4	590	<8	420	<4	420	<4	420	<4	<80	<4	<4	<4	<4	<1	<1	<1	<1	<1	<4	<4
WCC-3D	WCC-3D	Dup	2/23/1984	<4	530	<4	530	<4	530	<4	370	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1	<4
WCC-3D	6/13/1984	<10	1300	<20	720	<10	110	<200	<10	110	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
WCC-3D	9/6/1984	<50	5800	<100	3,700	<50	<1000	<50	<1000	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
WCC-3D	12/2/1984	10	6300	28	5,200	<4	4	<80	8.8	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
WCC-3D	3/14/1985	<40	4000	<80	3,300	<40	<40	<600	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	
WCC-3D	WCC-3D	Dup	3/14/1985	<20	3900	<40	3,200	<20	<400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
WCC-3D	6/13/1985	<10	2100	<20	1,800	<10	<10	<200	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
WCC-3D	9/7/1985	13	4100	35	3,400	6	<5	<10	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
WCC-3D	12/16/1985	<2	40	<2	111	<2	42	<2	42	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
WCC-3D	3/4/1986	<5	53	<5	53	<5	53	<5	53	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
WCC-3D	6/7/1986	<5	59	<5	84	<5	55	<5	55	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
WCC-3D	9/19/1986	<1	24	<1	52	<1	51	<1	52	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
WCC-3D	12/19/1986	1.3	67	<1	97	<1	1.1	<10	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
WCC-3D	5/28/1987	<1	11	<1	43	<1	43	<1	43	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
WCC-3D	7/8/1987	1.0	15	<1.0	70	<1	70	<1	70	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	7/24/1987	<1.0	5.0	<1	30	<1	5.0	<1	5.0	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	8/6/1987	<1.0	7.9	<1	55	<1	55	<1	55	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	9/18/1987	<1.0	8.8	<1	34	<1	34	<1	34	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	8/6/1987	<1.0	8.6	<1	54	<1	54	<1	54	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	8/22/1987	<1.0	21	<1	61	<1	61	<1	61	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	8/22/1987	<1.0	22	<1	60	<1	60	<1	60	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	9/5/1987	<1.0	15	<1	53	<1	53	<1	53	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	9/5/1987	<1.0	14	<1	44	<1	44	<1	44	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	9/18/1987	<1.0	18	<1	35	<1	35	<1	35	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	9/28/1988	<5	1,300	<5	1,200	<5	5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
WCC-3D	10/21/1988	<0.5	54	<0.5	50	<0.5	50	<0.5	50	<0.5	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	3/5/1989	<0.5	57	<0.5	32	<0.5	40	<0.5	40	<0.5	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	3/5/1989	<0.5	49	<0.5	28	<0.5	45	<0.5	45	<0.5	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	7/16/1989	<0.5	6.4	<0.5	5	<0.5	5	<0.5	5	<0.5	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	7/18/1989	<0.5	5.7	<0.5	4	<0.5	4	<0.5	4	<0.5	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	6/26/2000	<0.5	50	<0.5	54	<0.5	47	<0.5	47	<0.5	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<1	
WCC-3D	2/26/2001	<2	58	<2	47	<2	47	<2	47	<2	<20	<1	<20	<1	<20	<1	<20	<1	<20	<1	<1	
WCC-4S	11/2/1987	14	35	11	170	14	360	11	170	14	<10	1	<10	1	<10	1	<10	1	<10	1	<1	
WCC-4S	11/12/1987	<3	11	11	11	<3	11	11	11	<3	<3	2	2	2	2	2	2	2	2	2	2	
WCC-4S	7/13/1989	<3	11	11	11	<3	11	11	11	<3	<3	2	2	2	2	2	2	2	2	2	2	

Units = ug/L

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCA	1-Methylbenzene	Acetone	Benzene	Carbon disulfide	Chloroform	cis-1,2-DCE	trans-1,2-DCE	MEK	Methylene chloride	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichlorofluoromethane
WCC-4S	8/23/1989	<5	7	360	<5	<10	<150	<25	<25	<25	<10	<10	<10	<10	<50	<50	<20	<30	2,200	410	<5	
WCC-4S	11/18/1991	20	1,000	920	<25	<10	<10	<50	<10	<10	<10	<10	<10	<10	<50	<50	<20	1,500	<10	<10	<10	
WCC-4S	6/17/1992	<25	20	<10	1,400	<10	<10	<50	<10	<10	<10	<10	<10	<10	<50	<50	<20	1,800	<10	<10	<10	
WCC-4S	9/23/1992	<10	20	<10	1,000	<10	<10	<50	<10	<10	<10	<10	<10	<10	<50	<50	<20	1,800	<10	<10	<10	
WCC-4S	12/8/1992	<10	20	<10	1,000	<10	<10	<50	<10	<10	<10	<10	<10	<10	<50	<50	<20	1,800	<10	<10	<10	
WCC-4S	3/17/1993	8	14	<2	810	<2	<10	<50	<10	<10	<10	<10	<10	<10	<50	<50	<20	1,200	<2	<2	<5	
WCC-4S	6/8/1993	<10	12	<20	1,300	<10	<10	<200	<10	<10	<10	<10	<10	<10	<200	<200	<20	1,800	<10	<10	<10	
WCC-4S	8/25/1993	<10	10	<20	1,100	<10	<10	<200	<10	<10	<10	<10	<10	<10	<200	<200	<20	1,400	<10	<10	<10	
WCC-4S	11/18/1993	17	6	610	<4	<4	<80	<4	<4	<4	<4	<4	<4	<4	<80	<80	<20	40	<4	<4	<4	
WCC-4S	2/24/1994	5.8	8.8	1,100	<4	<4	<80	<4	<4	<4	<4	<4	<4	<4	<80	<80	<20	40	<4	<4	<4	
WCC-4S	6/14/1994	<4	5.1	<8	800	<4	<4	<80	<4	<4	<4	<4	<4	<4	<80	<80	<20	40	<4	<4	<4	
WCC-4S	9/9/1994	<20	<20	<10	1,000	<20	<20	<400	<20	<20	<20	<20	<20	<20	<400	<400	<20	1,300	<20	<20	<20	
WCC-4S	12/22/1994	<10	<10	<20	870	<10	<10	<200	<10	<10	<10	<10	<10	<10	<200	<200	<10	750	<10	<10	<10	
WCC-4S	3/14/1995	9.8	4.8	400	<4	<4	<80	<4	<4	<4	<4	<4	<4	<4	<80	<80	<20	450	<4	<4	<4	
WCC-4S	3/14/1995	<8	<8	<8	1,100	<5	<5	<10	13	<5	<5	<5	<5	<5	<10	<10	<5	1,200	<5	<5	<5	
WCC-4S	8/13/1995	8.8	6.6	<13	910	<5	<5	<10	13	<2	<2	<2	<2	<2	<10	<10	<5	1,100	<6.6	<6.6	<6.6	
WCC-4S	9/7/1995	8.1	6.4	<5	910	<5	<5	<10	13	<5	<5	<5	<5	<5	<10	<10	<5	1,200	<5	<5	<5	
WCC-4S	12/15/1995	4	42	1,100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	1,200	<2	<2	<2	
WCC-4S	3/4/1996	<5	<5	<5	710	<5	<5	<10	13	<5	<5	<5	<5	<5	<10	<10	<5	770	<5	<5	<5	
WCC-4S	6/7/1996	<5	<5	<5	740	<5	<5	<10	13	<5	<5	<5	<5	<5	<10	<10	<5	830	<5	<5	<5	
WCC-4S	8/19/1996	<25	<25	<25	980	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	980	<25	<25	<25	
WCC-4S	12/18/1996	<25	<25	<25	780	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	980	<25	<25	<25	
WCC-4S	5/8/1997	<12	<12	<12	1,000	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	1,100	<12	<12	<12	
WCC-4S	7/8/1997	<25	<25	<25	1,300	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	1,200	<25	<25	<25	
WCC-4S	7/24/1997	<25	<25	<25	940	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	1,200	<25	<25	<25	
WCC-4S	8/6/1997	<25	<25	<25	1,000	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	1,000	<25	<25	<25	
WCC-4S	8/22/1997	<25	<25	<25	1,200	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	1,200	<25	<25	<25	
WCC-4S	9/5/1997	<25	<25	<25	1,100	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	1,000	<25	<25	<25	
WCC-4S	9/17/1997	<25	<25	<25	980	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	1,100	<25	<25	<25	
WCC-4S	9/28/1998	24	<1.5	18	890	24	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	12	<5	<12.5	<2.5	<2.5	
WCC-4S	10/21/1998	19	<5	11	1,100	19	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	11	<15	<15	<5	<5	
WCC-4S	3/4/1999	<10	<10	<10	1,700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1,600	<10	<10	<10	
WCC-4S	7/14/1999	<10	<10	<10	2,100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1,500	<10	<10	<10	
WCC-4S	8/21/2000	<10	<10	<10	1,800	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	1,300	<10	<10	<10	
WCC-4S	1/24/2001	<50	<50	<50	2,000	<25	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,100	<50	<50	<50	
WCC-5S	11/30/1987	1	7	4	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<5	<5		
WCC-5S	1/8/1988	1	13	3	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5		
WCC-5S	7/13/1988	<1	12	3	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5			
WCC-5S	Dup	<1	12	3	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5			
WCC-5S	8/23/1989	<1	12	3	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5			
WCC-5S	11/19/1989	<1	12	3	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5			
WCC-5S	6/15/1992	<5	<5	<5	28	<10	<5	<1	<1	<1	<1	<1	<1	<1	<5	<5	<10	<10	<5	<5		
WCC-5S	9/21/1992	<1	<1	<1	21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5		
WCC-5S	12/7/1992	<1	<1	<1	18	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1	<1	<1		
WCC-5S	3/19/1993	<2	<2	<2	22	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
WCC-5S	6/7/1993	<2	<2	<2	23	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
WCC-5S	8/24/1993	<2	<2	<2	23	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-	1,1,-	1,1,2-	1,1,2-	1-Methyl	Carbon	Chloro	trans-	MEK	Methyl	Ethy	Xylenes
		DCA	TCA	TCA	DCA	benzene	disulfide	tetra	1,2-DCE	chloride	TCE	Benzene	(total)
WCC-5S	11/18/1983	<2	<2	21	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	2/23/1994	<2	<2	25	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	6/10/1994	<2	<2	25	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	Dup	6/10/1994	<2	25	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	12/21/1994	<2	<2	25	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	3/13/1995	<2	<2	14	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	6/12/1995	<2	<2	19	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	9/8/1995	<5	<5	18	<5	<5	<5	<5	<5	<10	<5	<5	<5
WCC-5S	12/12/1995	<2	<2	15	<2	<2	<2	<2	<2	<20	<2	<2	<2
WCC-5S	2/29/1996	<5	<5	10	<5	<5	<5	<5	<5	<10	<5	<5	<5
WCC-5S	6/6/1996	<5	<5	9	<5	<5	<5	<5	<5	<10	<5	<5	<5
WCC-5S	9/18/1996	<1	<1	10	<1	1,2	<10	<1	<1	<10	<1	<1	<1
WCC-5S	12/17/1996	<1	<1	10	<1	2	<10	<1	<1	<10	<1	<1	<1
WCC-5S	5/7/1997	<1	<1	10	<1	1,2	<10	<1	<1	<10	<1	<1	<1
WCC-5S	7/2/1997	<1,0	<1,0	11	<1	<1	<10	<1	<1	<10	<1	<1	<1
WCC-5S	7/23/1997	<1,0	<1,0	12	<1	<1	<10	<1	<1	<10	<1	<1	<1
WCC-5S	8/5/1997	<1,0	<1,0	13	<1	<1	<10	<1	<1	<10	<1	<1	<1
WCC-5S	8/20/1997	<1,0	<1,0	12	<1	<1	<10	<1	<1	<10	<1	<1	<1
WCC-5S	9/4/1997	<1,0	<1,0	16	<1	<1	<10	<1	<1	<10	<1	<1	<1
WCC-5S	9/18/1997	<1,0	<1,0	19	<1	<1	<10	<1	<1	<10	<1	<1	<1
WCC-5S	9/28/1998	<0.5	<0.5	18	<1	<1	<10	<1	<1	<10	<1	<1	<1
WCC-5S	10/20/1998	<0.5	<0.5	17	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WCC-5S	3/4/1999	<0.5	<0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WCC-5S	7/15/1999	<0.5	<0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WCC-5S	6/22/2000	<0.5	<0.5	9	<0.5	<0.5	<10	<1	<1	<1	<1	<1	<1
WCC-5S	1/23/2001	<1	<1	5	<0.5	<0.5	<10	<1	<1	<1	<1	<1	<1
WCC-6S	10/6/1989	4	130	210	<1	<1	<1	<1	<1	12	7	<5	<10
WCC-6S	11/16/1991	5,000	5,000	5,000	<10,000	<500	<10,000	<500	<500	21,000	17,000	<10	35,000
WCC-6S	6/17/1992	<500	21,000	5,000	<500	<500	<500	<500	<500	63,000	70,000	<100	15,000
WCC-6S	9/23/1992	94	1300	96	5,900	5	<1	78	67	200	170	5	3000
WCC-6S	12/6/1992	80	80	3,700	<80	<50	<100	<100	<100	200	100	<50	<50
WCC-6S	Dup	12/6/1992	<100	1400	5,000	<80	<11	<80	<12	200	200	<500	<100
WCC-6S	3/17/1993	50	1200	<10	3,200	<50	<25	<25	<10	80	3800	<50	3200
WCC-6S	6/6/1993	<100	1900	<200	5,500	<80	<13	<100	<100	280	120	<100	1400
WCC-6S	8/25/1993	<100	2100	<200	5,400	<80	<14	<100	<100	630	130	<200	21000
WCC-6S	11/19/1993	42	440	2,200	<200	<10	<200	<24	<10	480	3100	<50	4700
WCC-6S	2/24/1994	91	2200	74	11,000	<80	<18	<10	230	52	1400	21	4400
WCC-6S	6/13/1994	87	1800	69	5,800	<80	<10	<200	52	<10	1800	18	5000
WCC-6S	6/13/1994	<100	1500	<200	6,300	<17	<10	<2000	<100	1400	100	<50	1400
WCC-6S	12/22/1994	<200	1300	<400	9,100	<200	<200	<200	<200	2500	200	<2000	<100
WCC-6S	3/4/1995	38	200	40	3,000	26	<20	<400	25	<20	850	<50	4400
WCC-6S	6/13/1995	130	60	9,000	51	<80	<16	<10	230	52	1400	21	4400
WCC-6S	9/7/1995	65	370	1	4,300	1	<5	<10	50	45	1400	18	4500
WCC-6S	9/7/1995	70	310	1	3,800	1	<5	<10	56	45	1400	11	4500
WCC-6S	Dup	12/16/1995	120	1400	75	11,000	41	<2	56	45	1400	28	5200
WCC-6S	12/16/1995	120	1,600	61	8,300	<50	<100	56	<50	450	2,000	340	2,000
WCC-6S	3/4/1996	93	1,600	61	8,300	<50	<100	56	<50	450	2,000	350	2,000

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCA	1-Methylbenzene	Acetone	Benzene	Carbon disulfide	Carbon tetrachloride	cis-1,2-DCE	trans-1,2-DCE	MEK	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichloro fluoro methane	
WCC-6S	6/7/1996	88	1100	53	9,300	<25	<50	54	<25	<25	3000	120	980	<25	<25	2400	6500	<25	<25	<25	<25	
WCC-6S	9/18/1996	<250	890	8,800	<250	<250	<250	250	<250	<250	250	250	<250	<250	<250	2800	4000	<250	<250	<250	<25	
WCC-6S	Dup	9/18/1996	110	950	<100	8,800	<100	<100	<100	<100	100	100	<100	<100	<100	100	100	<100	<100	<100	<100	
WCC-6S	12/19/1996	<100	880	<100	7,000	<100	<100	<100	<100	<100	880	100	<100	<100	<100	100	100	<100	<100	<100	<100	
WCC-6S	Dup	12/19/1996	<100	8,300	<100	<100	<100	<100	<100	<100	1000	130	<100	<100	<100	1000	2600	3000	<100	<100	<100	<100
WCC-6S	5/9/1997	<100	720	<100	6,800	<100	<100	<100	<100	<100	500	<100	<100	<100	<100	1000	2800	3000	<100	<100	<100	<100
WCC-6S	Dup	5/9/1997	100	740	<100	7,000	<100	<100	<100	<100	500	<100	<100	<100	<100	1000	1800	1800	<100	<100	<100	<100
WCC-6S	7/8/1997	<100	410	100	3,800	<100	<100	<100	<100	<100	500	<100	<100	<100	<100	1000	2400	2400	<100	<100	<100	<100
WCC-6S	7/24/1997	<100	320	<100	2,700	<100	<100	<100	<100	<100	510	<100	<100	<100	<100	1000	1800	1800	<100	<100	<100	<100
WCC-6S	8/6/1997	<100	630	<100	7,700	<100	<100	<100	<100	<100	500	<100	<100	<100	<100	1000	2100	3100	<100	<100	<100	<100
WCC-6S	9/18/1997	<100	500	<100	5,500	<100	<100	<100	<100	<100	500	<100	<100	<100	<100	1000	1800	1800	<100	<100	<100	<100
WCC-6S	9/23/1998	18	38	<12.5	2,800	16	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	22	<62.5	<12.5	<12.5	<12.5	<12.5	
WCC-6S	10/22/1998	20	19	2,800	20	<10	12	<10	<10	<10	100	33	<50	<50	<50	140	<250	1700	<10	<10	<10	<10
WCC-6S	3/6/1999	110	300	<50	9,500	110	<50	51	<50	<50	50	50	1000	130	<250	140	140	760	<50	<100	<50	<50
WCC-6S	7/16/1999	94	380	<50	7,300	94	<50	<50	<50	<50	50	50	1000	130	<250	1000	1000	3000	850	<50	<100	<50
WCC-6S	6/28/2000	76	1800	<25	5,300	<25	<25	<25	<25	<25	2000	91	<125	<125	<125	1500	4700	<25	<50	<50	<25	
WCC-6S	1/22/2001	79	J	770	<100	4,800	<50	<1000	<100	<100	<100	<100	<100	<100	<100	1300	120	<100	<100	<100	<100	
WCC-7S	7/13/1999	<10	110	850	<10	<10	<10	<10	<10	<10	28	11	<50	<50	<50	1300	<10	<100	1400	<30	<100	
WCC-7S	8/23/1999	<30	68	1,100	<30	<30	<30	<30	<30	<30	31	<30	<30	<30	<30	10	<30	<30	<30	<30	<30	
WCC-7S	11/18/1999	380	<5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	6/17/1992	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	9/23/1992	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	12/8/1992	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	3/7/1993	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	6/7/1993	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	8/25/1993	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
WCC-7S	11/19/1993	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	2/24/1994	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	6/13/1994	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	9/8/1994	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	12/22/1994	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	3/14/1995	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	6/13/1995	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	6/7/1995	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	Dup	5/6/1995	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	9/7/1995	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	12/15/1995	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	3/1/1996	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	6/7/1996	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
WCC-7S	9/19/1996	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	12/18/1996	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
WCC-7S	5/6/1997	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	
WCC-7S	7/2/1997	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	
WCC-7S	7/24/1997	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	
WCC-7S	8/6/1997	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	
WCC-7S	8/21/1997	3.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
WCC-7S	9/4/1997	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	

Units = ug/L

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCE	1-Methylbenzene	Carbon disulfide	Chloroform	trans-1,2-DCE	MEK	Methylene chloride	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichlorofluoromethane
WCC-7S	9/17/1997	<2.5	<2.5	<2.5	110	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	160	21	<2.5	<2.5
WCC-7S	9/28/1998	1.4	<1.25	1.7	300	1.4	<1.25	<125	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	250	<1.25	<1.25	<1.25
WCC-7S	10/21/1998	1	<1	2	300	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	240	<1	<1	<1
WCC-7S	3/4/1999	<1	<1	<1	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	170	<1	<1	<1
WCC-7S	7/14/1999	<1	<1	<1	32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	120	<1	<1	<1
WCC-7S	6/22/2000	1.1	<0.5	1.7	190	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	170	<0.5	<0.5	<0.5
WCC-7S	12/4/2001	<5	<5	200	<2.5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	140	9	<5	<5
WCC-BS	7/13/1989	<5	160	430				<5		<5	7	9				30	240	45	
WCC-BS	8/23/1989	<5	130	820				<5		<5	7	5				30	430	45	
WCC-BS	11/15/1989	400	2,000	2,200				<150	<25	<25	<25	<25	<25	<25	<25	40		3000	120
WCC-BS	6/17/1992	<25	180	2,300				<300	<50	<50	<50	<50	<50	<50	<50	40		2400	<25
WCC-BS	Dup	<50	<50	200	<20	2,800	<20	<20	<20	<20	<20	<20	<20	<20	<20	40	<100	<20	<20
WCC-BS	12/8/1992	<20	100	2,000	<20	2,000	<20	<20	<20	<20	20	20	30	<100	<20	30	<20	2500	<20
WCC-BS	3/17/1993	11	180	1,800	<2	3,000	<20	<20	<20	<20	15	15	26	<10	<5	1500	<2	1500	<2
WCC-BS	6/8/1993	<20	300	4,000	<10	3,000	<20	<20	<20	<20	<20	<20	<20	<20	<20	40	<200	2000	<20
WCC-BS	8/25/1993	<20	330	<10	3,100	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	45	<200	2200	<20
WCC-BS	2/24/1994	<20	300	<10	3,400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	35	<100	1200	<20
WCC-BS	6/13/1994	<40	290	4,000	<10	4,000	<20	<20	<20	<20	<20	<20	<20	<20	<20	40	<200	2200	<20
WCC-BS	9/9/1994	<50	280	<100	4,800	<50	<100	<50	<50	<50	<50	<50	<50	<50	<50	44	<200	2200	<40
WCC-BS	12/22/1994	<20	230	4,000	<20	4,000	<20	<20	<20	<20	25	25	<20	<20	<20	43	<100	2100	<50
WCC-BS	3/14/1995	<40	220	<80	4,500	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	41	<800	2600	<40
WCC-BS	6/13/1995	<10	150	<80	4,200	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	40	<800	2400	<40
WCC-BS	9/7/1995	10	110	<5	2,200	<5	<5	<5	<5	<5	22	<5	<5	<5	<5	28	<10	1700	<5
WCC-BS	12/15/1995	18	120	<2	4,200	<2	<2	<2	<2	<2	18	<2	<2	<2	<2	40	<20	2300	<2
WCC-BS	3/1/1996	<20	120	3,500	<20	<20	<20	<20	<20	<20	40	<20	<20	<20	<20	40	<20	2100	<20
WCC-BS	6/7/1996	11	91	<5	3,300	<5	<5	<5	<5	<5	45	<5	10	12	32	<10	<5	2000	<5
WCC-BS	9/19/1996	<50	59	<50	3,400	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	500	<50	1900	<50
WCC-BS	11/19/1996	<20	330	<10	3,300	<20	<20	<20	<20	<20	24	<20	<20	<20	<20	50	<100	2000	<20
WCC-BS	12/18/1996	<50	61	<50	3,000	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	40	<500	2000	<50
WCC-BS	5/8/1997	<50	<50	2,800	<50	<50	<50	<50	<50	<50	500	<50	<50	<50	<50	51	<500	1800	<50
WCC-BS	7/8/1997	<50	<50	3,200	<50	<50	<50	<50	<50	<50	500	<50	<50	<50	<50	50	<500	1900	<50
WCC-BS	7/24/1997	<50	<50	2,500	<50	<50	<50	<50	<50	<50	500	<50	<50	<50	<50	50	<500	1900	<50
WCC-BS	8/6/1997	<2.5	<2.5	150	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	12	<2.5	<2.5	<2.5	<2.5	160	18	<50	<2.5
WCC-BS	8/22/1997	<50	<50	2,800	<50	<50	<50	<50	<50	<50	250	<50	<50	<50	<50	500	<50	1900	<50
WCC-BS	9/5/1997	<50	<50	2,500	<50	<50	<50	<50	<50	<50	500	<50	<50	<50	<50	500	<50	1900	<50
WCC-BS	9/17/1997	<50	<50	2,600	<50	<50	<50	<50	<50	<50	500	<50	<50	<50	<50	500	<50	1800	<50
WCC-BS	10/6/1998	<1	<1	<1	<1	<1	<1	<1	<1	<1	7	<1	<1	<1	<1	7	<5	15	<1
WCC-BS	11/19/1998	<5	<5	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	6	2	42	<5
WCC-BS	8/15/1998	<1	<1	<1	<1	<1	<1	<1	<1	<1	10	<1	<1	<1	<1	10	<5	45	<1
WCC-BS	9/21/1998	<1	<1	<1	<1	<1	<1	<1	<1	<1	12	<1	<1	<1	<1	12	<5	51	<1
WCC-BS	12/7/1998	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1	3	<5	45	<1
WCC-BS	3/18/1993	<2	<2	<2	<2	<2	<2	<2	<2	<2	11	<2	<2	<2	<2	11	<10	23	<2
WCC-BS	6/7/1993	<2	<2	<2	<2	<2	<2	<2	<2	<2	12	<2	<2	<2	<2	12	<10	42	<2
WCC-BS	8/7/1993	<2	<2	<2	<2	<2	<2	<2	<2	<2	11	<2	<2	<2	<2	11	<2	39	<2

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Boeing Realty Corporation Former C-6 Facility

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Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCA	1-Methylbenzene	Acetone	Benzene	Carbon disulfide	Chloroform	cis-1,2-DCE	trans-1,2-DCE	MEK	Methylene chloride	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichloro fluoro methane
WCC-11S	5/8/1987	<2.5	<2.5	33	<2.5	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	7/2/1987	<2.0	<2.0	29	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
WCC-11S	8/24/1987	<2.5	<2.5	31	<2.5	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	8/31/1987	<2.5	<2.5	33	<2.5	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	8/31/1997	<2.5	<2.5	30	<2.5	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	9/4/1997	<2.5	<2.5	29	<2.5	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	Dup	9/4/1997	<2.5	28	<2.5	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	9/17/1997	<2.5	<2.5	29	<2.5	<2.5	<2.5	<12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-11S	9/28/1998	<1	2.1	<1	51	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WCC-11S	10/21/1998	<1	<1	35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WCC-11S	3/4/1999	<0.5	<0.5	22	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WCC-11S	7/14/1999	<0.5	<0.5	38	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WCC-11S	8/22/2000	<0.5	<0.5	24	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WCC-11S	1/23/2001	0.45	J	<1	13	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WCC-12S	11/18/1991	17	300					<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
WCC-12S	6/16/1992	<5	<5	250				<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
WCC-12S	9/22/1992	<5	<5	1	<1	150	<1	<1	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
WCC-12S	12/6/1992	<5	<5	45	<5	180	<5	<5	30	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
WCC-12S	3/17/1993	7	42	<2	100	<2	<2	42	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	6/7/1993	2	42	<2	130	<2	<2	40	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	8/25/1993	<4	<4	48	<4	100	<4	<4	80	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
WCC-12S	11/18/1993	9	42	<2	44	<2	<2	40	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	2/24/1994	7.7	42	<2	44	<2	<2	40	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	2/24/1994	7.7	42	<2	44	<2	<2	77	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	6/13/1994	15	42	<2	44	<2	<2	64	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	9/9/1994	<2	<2	47	<2	97	<2	<2	40	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	12/22/1994	17	42	<2	44	<2	<2	52	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	3/14/1995	16	42	<2	44	<2	<2	53	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	6/12/1995	28	42	<2	44	<2	<2	72	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	9/6/1995	32	42	<2	44	<2	<2	60	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	12/15/1995	10	42	<2	44	<2	<2	47	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	3/1/1996	13	45	47	<5	45	<5	47	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
WCC-12S	6/7/1996	12	45	45	<5	45	<5	47	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
WCC-12S	9/19/1996	15	42	42	<2	48	<2	42	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	12/18/1996	16	52	42	43	<2	<2	42	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
WCC-12S	5/6/1997	16	<2.5	<2.5	47	<2.5	<2.5	47	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-12S	7/2/1997	14	<2.0	<2.0	38	<2.0	<2.0	40	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
WCC-12S	7/23/1997	14	<2.0	<2.0	34	<2.0	<2.0	40	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
WCC-12S	8/6/1997	14	<2.0	<2.0	42	<2.0	<2.0	40	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
WCC-12S	8/21/1997	13	<2.5	<2.5	40	<2.5	<2.5	42	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-12S	9/17/1997	13	<2.5	<2.5	40	<2.5	<2.5	42	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-12S	9/23/1998	130	<2.5	<2.5	120	<2.5	<2.5	34	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
WCC-12S	9/23/1998	11	<2.5	<2.5	34	<2.5	<2.5	34	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

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Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1'-DCA	1,1,1-TCA	1,1,2-TCA	1-Methyl benzene	Acetone Benzene	Carbon disulfide	Chloroform	1,2-DCE	trans-1,2-DCE	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichloro fluoro methane		
WCC-12S	10/21/1986	110	<2.5	120	110	<2.5	<2.5	<2.5	9	3	<12.5	3	530	<2.5	<2.5	<2.5	<2.5	<2.5	
WCC-12S	3/2/1989	19	<0.5	48	19	<0.5	<0.5	<0.5	1.8	2.5	<0.5	0.75	140	<0.5	<0.5	<1	<1	<0.5	
WCC-12S	7/13/1989	20	<0.5	49	20	<0.5	<0.5	<0.5	1.9	3	<0.5	0.63	130	<0.5	<0.5	<1	<0.5	<0.5	
WCC-12S	6/21/2000	24	<0.5	47	<0.5	<0.5	<0.5	<0.5	2.8	1.9	<0.5	2.5	1	<0.5	<0.5	<1.0	<1.0	<0.5	
WCC-12S	1/22/2001	18	<2.5	40	<1.2	<2.5	<2.5	<2.5	<1.2	2	1.4-J	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
DAC-P1	10/9/1989						<1,000	<200		<200	<1,000	<1,000	<1,000	<10	17,000	<200			
DAC-P1	10/17/1989	<200	<200				<200	<200		<200	<100	13	21,000	<5	2,600	<200			
DAC-P1	6/23/1992	<5	<5				<30	<5		<5	51	70	2	<5	13	20,000	<1		
DAC-P1	6/23/1992	<1	<1	9	4	<1	<1	<1	4	54	71	1	<5	4	1,300	<1	<1	1	
DAC-P1	12/9/1992	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	
DAC-P1	3/18/1993	<2	<4	5	21	<2	<2	<10	5	44	68	2	<10	7	10	<5	<5	<5	
DAC-P1	6/8/1993	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
DAC-P1	8/25/1993	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	
DAC-P1	11/19/1993	<20	<20	<40	<40	<20	<40	<20	<20	52	81	<20	<400	<100	<20	<20	<20	<20	
DAC-P1	2/24/1994	<20	<20	<40	<40	<20	<40	<20	<20	47	89	<20	<400	<100	<20	<20	<20	<20	
DAC-P1	6/13/1994	<20	<20	<40	<40	<20	<40	<20	<20	48	92	<20	<400	<100	<20	<20	<20	<20	
DAC-P1	9/8/1994	<200	<200	<400	<400	<200	<400	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	
DAC-P1	12/22/1994	<200	<200	<400	<400	<200	<400	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	
DAC-P1	3/14/1995	<200	<200	<400	<400	<200	<400	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	
DAC-P1	6/13/1995	<200	<200	<400	<400	<200	<400	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	
DAC-P1	9/7/1995	<5	<5	12	<5	<10	<5	<5	<5	33	88	<5	<10	<5	<5	<5	<5	<5	<5
DAC-P1	12/16/1995	2	38	4	120	<2	<2	<2	5	45	130	5	<2	<2	11	17,000	53	<2	
DAC-P1	3/4/1996	<100	<100	<100	<100	<100	<100	<100	<100	100	<100	<100	<100	<100	<100	20,000	680	<2	
DAC-P1	3/4/1996	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
DAC-P1	6/7/1996	<50	<50	180	<50	<50	<50	<50	<50	95	<50	<100	<50	<50	<50	13,000	490	<50	
DAC-P1	6/7/1996	45	<25	180	<25	<25	<25	<25	<25	29	95	<25	<25	<25	<25	12,000	490	<25	
DAC-P1	9/19/1996	<250	<250	350	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	15,000	740	<25
DAC-P1	12/19/1996	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	15,000	610	<500
DAC-P1	5/9/1997	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	15,000	540	<250
DAC-P1	7/8/1997	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	13,000	450	<250
DAC-P1	7/24/1997	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	3200	110	<50
DAC-P1	8/6/1997	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	15,000	460	<250
DAC-P1	8/22/1997	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	17,000	1300	<250
DAC-P1	9/5/1997	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	15,000	810	<250
DAC-P1	9/18/1997	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	14,000	540	<250
DAC-P1	4/8/1998	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	14,000	50	<50
DAC-P1	7/18/1998	<125	<125	<125	<125	<125	<125	<125	<125	<125	<125	<125	<125	<125	<125	<125	18,000	670	<125
DAC-P1	6/26/2000	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	14,000	50	<50
DAC-P1	1/18/2001	<250	<250	<200	<120	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	10,000	50	<250
TMW-1	7/15/1998	<5	12	<5	900	<5	<5	<5	<5	7.1	<5	<5	<5	<5	<5	<5	540	<5	<5
TMW-1	9/22/1998	<5	5.8	<5	730	<5	<5	<5	5.4	<5	<5	<5	<5	<5	<5	<5	410	<5	<5
TMW-1	10/19/1998	<2.5	4	<2.5	870	<2.5	<2.5	<2.5	4.7	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	370	<5	<5
TMW-1	3/5/1999	<1.25	1.3	<1.25	330	<1.25	<1.25	<1.25	4.7	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	320	<1.25	<1.25
TMW-1	7/15/1999	<2.5	<2.5	<2.5	800	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	340	<2.5	<2.5

Units = ug/L

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCA	1-Methyl ethyl Acetone	Benzene	Carbon disulfide	Chloroform	cis-1,2-DCE	trans-1,2-DCE	MEK	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichlorofluoro methane
TMW-1	6/23/2000	<2.5	<2.5	<2.5	340	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<13	<5	<5	<2.5	350	<2.5	<5	19
TMW-1	1/28/2001	<5	<5	<5	140	<2.5	<50	<5	<5	<2.5	4.3	<5	<5	<5	<5	380	5.3	<5	<5	26
TMW-2	7/15/1998	<250	6,000	<250	35,000	<250	<250	<250	<250	350	710	630	<1250	<250	<250	34,000	<250	<250	<500	<250
TMW-2	9/23/1998	1,500	5,000	<250	34,000	1500	<250	<250	<250	280	770	650	<1250	<250	<250	31,000	<250	<250	<500	<250
TMW-2	10/20/1998	1,800	5,100	<250	35,000	1800	<250	<250	<250	270	810	700	<1250	<250	<250	32,000	<125	<125	<250	<250
TMW-2	3/6/1999	1,600	4,300	<250	38,000	1800	<125	<125	<125	250	860	600	<1250	<125	<125	36,000	<125	<125	<250	<250
TMW-2	7/16/1999	1,900	2700	<250	43,000	1900	<125	<125	<125	280	1000	930	<1250	<125	<125	32,000	<125	<125	<250	<250
TMW-2	6/28/2000	1400	1800	<100	28,000	<100	<100	<100	<100	100	230	850	<500	<500	<500	100	480	<100	<200	<100
TMW-2	2/3/2001	1400	960	<250	24,000	74 J	<250	<250	<250	120	170	1000	510	51 J	250	21000	960	<250	<250	<500
TMW-3	7/31/1998	<50	<50	200	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TMW-3	9/22/1998	<100	<100	150	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
TMW-3	10/20/1998	<50	<50	330	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TMW-3	3/5/1999	<50	<50	210	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TMW-3	7/15/1999	<50	<50	340	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TMW-3	6/22/2000	<10	<10	96	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TMW-3	1/29/2001	<50	<50	76	<25	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TMW-4	7/14/1998	55	<2.5	43	1,500	<25	<25	<25	<25	<25	<25	<25	110	68	<125	<25	2,300	<25	<25	<25
TMW-4	9/22/1998	47	19	28	1,800	47	<10	<10	<10	21	83	58	<50	<50	<50	110	2,600	<10	<10	<10
TMW-4	10/20/1998	58	22	29	2,400	58	<10	<50	<50	10	98	73	<50	<50	<50	10	2,900	<10	<10	<10
TMW-4	3/4/1999	<50	<50	450	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TMW-4	7/15/1999	42	10	10	2,500	23	<10	<10	<10	10	30	77	64	54	54	54	75	<10	<10	<10
TMW-4	6/22/2000	22	<5.0	5	890	15	<5	<5	<5	45	17	39	27	25	25	45	1700	<5	<5	<5
TMW-4	1/29/2001	19 J	<50	50	1,100	12 J	<500	<50	<50	<25	14	29 J	21 J	<50	<50	2000	<50	<50	<50	<100
TMW-5	7/14/1998	<2.5	<2.5	<2.5	480	<25	<25	<25	<25	0.25	<25	<25	<25	<25	<25	<25	3,700	<25	<25	<25
TMW-5	9/22/1998	<12.5	<12.5	<12.5	470	<12.5	<12.5	<12.5	<12.5	24	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	3,500	<12.5	<12.5	<12.5
TMW-5	10/19/1998	<2.5	<2.5	<2.5	530	<25	<25	<25	<25	28	<25	<25	<25	<25	<25	<25	5,000	<25	<25	<25
TMW-5	3/4/1999	<50	<50	500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	4300	<50	<50	<50
TMW-5	7/14/1999	<50	<50	710	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	130	<2.5	<2.5	<2.5
TMW-5	6/22/2000	<13	<13	9	<2.5	<2.5	<13	<13	<13	560	<2.5	<2.5	<13	<13	<13	<13	4100	<13	<13	<13
TMW-5	1/23/2001	<50	<50	460	<25	<500	<50	<50	<50	<25	15	<50	<50	<50	<50	<50	2900	<50	<50	<50
TMW-6	7/14/1998	<2.5	<2.5	<2.5	28	<2.5	<2.5	<2.5	<2.5	550	3.4	<2.5	<2.5	<2.5	<2.5	<2.5	490	<2.5	<2.5	<2.5
TMW-6	9/22/1998	<2.5	<2.5	<2.5	11	<2.5	<2.5	<2.5	<2.5	630	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	240	<2.5	<2.5	<2.5
TMW-6	10/19/1998	<2.5	<2.5	<2.5	11	<2.5	<2.5	<2.5	<2.5	500	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	210	<2.5	<2.5	<2.5
TMW-6	3/4/1999	<2.5	<2.5	<2.5	8	<2.5	<2.5	<2.5	<2.5	630	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	170	<2.5	<2.5	<2.5
TMW-6	6/22/2000	<2.5	<2.5	<2.5	7	<2.5	<50	<5	<5	100	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	540	<2.5	<2.5	<2.5
TMW-6	1/29/2001	<5	<5	7	<2.5	<5	<5	<5	<5	270	<5	<5	<5	<5	<5	<5	61	<5	<5	<5
TMW-7	7/14/1998	73	28	3,000	73	<12.5	40	<12.5	<12.5	28	120	83	<82.5	<82.5	<82.5	3,500	<12.5	<12.5	<12.5	
TMW-7	9/22/1998	38	<12.5	17	1,700	38	<12.5	19	<12.5	13	70	48	<82.5	<82.5	<82.5	2,700	<12.5	<12.5	<12.5	
TMW-7	10/19/1998	44	<10	17	2,400	44	<10	23	<10	14	89	65	<50	<50	<50	3,000	<10	<10	<10	
TMW-7	3/4/1999	41	<12.5	14	2,200	41	<12.5	16	<12.5	13	75	54	<82.5	<82.5	<82.5	2,800	<12.5	<12.5	<12.5	
TMW-7	7/15/1999	36	<12.5	2,100	36	<12.5	13	<12.5	<12.5	13	67	57	<12.5	<12.5	<12.5	2,500	<12.5	<12.5	<12.5	

Units = ug/L

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-DCA	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,2-DCA	1-Methylbenzene	Carbon tetrachloride	Chloroform	cis-1,2-DCE	trans-1,2-DCE	MEK	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichlorofluoro methane
TMW-7	6/23/2000	<10	<10	850	<10	<10	<10	<10	<10	34	24	<50	<10	2000	<10	<10	<20	<10	<10
TMW-7	1/22/2001	14 J	<25	640	<12	<25	<25	<12	5.5	26	17 J	<25	<25	<25	<25	<25	<25	<25	<50
TMW-8	7/15/1998	96	37	37	7,000	96	<25	62	<25	38	140	120	<125	<25	<25	<25	<50	<50	<25
TMW-8	9/22/1998	31	<12.5	2,000	31	<12.5	23	<12.5	14	54	49	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<50
TMW-8	10/20/1998	18	<10	1,300	18	<10	13	<10	<10	22	25	<10	<10	<10	<10	<10	<10	<10	<10
TMW-8	3/5/1999	52	<12.5	18	3,800	52	<12.5	38	<12.5	21	93	71	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
TMW-8	7/15/1999	52	<12.5	13	3,800	52	<12.5	27	<12.5	13	92	74	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
TMW-8	6/23/2000	45	<12.5	13	2,300	22	<25	23	<13	61	56	<13	<13	<13	<13	<13	<13	<13	<13
TMW-8	1/25/2001	39 J	<50	<50	2,189	<25	<500	<50	<50	<50	63	51	<50	<50	<50	<50	<50	<50	<100
TMW-9	7/14/1998	<1	<1	24	<1	<1	<1	<1	<1	2.9	<1	<1	<5	<5	<5	<5	<5	<5	<5
TMW-9	9/22/1998	<1	<1	14	<1	<1	<1	<1	<1	2	<1	<1	<5	<5	<5	<5	<5	<5	<5
TMW-9	10/19/1998	<2.5	<2.5	51	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5
TMW-9	3/4/1999	<5	<5	110	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TMW-9	7/14/1999	<5	<5	280	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TMW-9	6/23/2000	<5	<5	220	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TMW-9	1/25/2001	<12	<12	170	<8.2	<120	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
TMW-10	3/3/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.2	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-10	7/13/1999	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	4.9	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-10	6/20/2000	<0.5	<0.5	40	<0.5	<0.5	<0.5	<0.5	<0.5	4.7	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-10	1/19/2001	<12	<12	12	<12	<12	<12	<12	<12	3.3	<12	<12	<12	<12	<12	<12	<12	<12	<12
TMW-10	5/10/2001	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	2.7	<1	<1	<1	<1	<1	<1	<1	<1	<1
TMW-11	3/3/1999	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	1.7	450	<1.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25
TMW-11	7/13/1999	<1.25	<1.25	2	<1.25	<1.25	<1.25	<1.25	<1.25	1.7	450	<1.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25	<6.25
TMW-11	6/20/2000	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	740	<2.5	<2.5	<13	<13	<13	<13	<13	<13	<13
TMW-11	1/25/2001	<10	<10	<10	<10	<10	<10	<10	<10	720	<10	<10	<10	<10	<10	<10	<10	<10	<10
TMW-12	3/3/1999	<10	<10	20	<10	<10	<10	<10	<10	3,100	<10	<10	<50	<50	<50	<50	<50	<50	<50
TMW-12	7/13/1999	<10	<10	32	<10	<10	<10	<10	<10	2,800	<10	<10	<50	<50	<50	<50	<50	<50	<50
TMW-12	6/21/2000	<10	<10	25	<10	<10	<10	<10	<10	2,100	<10	<10	<50	<50	<50	<50	<50	<50	<50
TMW-12	1/22/2001	<25	<25	18	<12	<250	<25	<25	<25	1,500	<25	<25	<25	<25	<25	<25	<25	<25	<25
TMW-13	3/3/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.6	31	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-13	7/13/1999	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	4.5	29	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-13	6/21/2000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3	14	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-13	5/10/2001	<1	<1	<1	<1	<1	<1	<1	<1	0.6 J	1.1	<1	<1	<1	<1	<1	<1	<1	<1
TMW-14	3/3/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.8	4.6	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-14	7/13/1999	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	12	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-14	6/21/2000	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	4.4	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
TMW-14	1/25/2001	<1	<1	0.92 J	<1	<1	<1	<1	<1	5.4	<1	<1	<1	<1	<1	<1	<1	<1	<1
TMW-15	3/3/1999	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TMW-15	7/13/1999	<0.5	<0.5	2	<0.5	<0.5	<0.5	<0.5	<0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TMW-15	6/22/2000	<0.5	<0.5	0.2	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TMW-15	1/25/2001	<1	<1	0.93 J	<1	<1	<1	<1	<1	0.7	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table 5
Summary of Historical Volatile Organic Compounds
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	1,1,-DCA	1,1,1-TCA	1,1,2-TCA	1,2-DCE	1,1-DCA	1-Methylbenzene	Acetone	Benzene	Carbon disulfide	Chloroform	Carbon tetrachloride	cis-1,2-DCE	trans-1,2-DCE	MEK	Methylene chloride	MIBK	PCE	TCE	Toluene	Ethyl Benzene	Xylenes (total)	Trichlorofluoromethane
TMW-16	3/6/1989	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	2.1	4.5	<0.5	<0.5	<1.0	<0.5	<0.5	
TMW-16	7/18/1989	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	0.98	2.7	<0.5	<0.5	<1.0	<0.5	<0.5	
TMW-16	6/22/2000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	
TMW-16	6/26/2000	<0.5	<0.5	3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	2.9	6.2	<0.5	<0.5	<1.0	<0.5	<0.5
TMW-16	1/25/2001	<1	<1	0.29 J	<0.5	<10	<1	<1	<1	<0.5	0.31	<1	<1	<1	<1	1.1	2.5	12	0.85 J	2.3	<2	<0.5	<0.5
TMW-17	5/20/1989	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	32	<0.5	<0.5	<1.0	<0.5	<0.5
TMW-17	7/14/1989	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	32	<0.5	<0.5	<1.0	<0.5	<0.5
TMW-17	1/44/2000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	25	<0.5	<0.5	<1.0	<0.5	<0.5

1,1-DCA - 1,1-Dichloroethane

1,1,1-TCA - 1,1,1-Trichloroethane

1,1,2-TCA - 1,1,2-Trichloroethane

1,1-DCE - 1,1-Dichloroethene

1,2-DCA - 1,2-Dichloroethane

cis-1,2-DCE - cis-1,2-Dichloroethene

MEK - methyl-ethyl-ketone

PCE - Tetrachloroethene

TCE - Trichloroethene

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Aluminum mg/L 6010B	Antimony mg/L 6010B	Arsenic mg/L 6010B	Barium mg/L 6010B	Beryllium mg/L 6010B	Cadmium mg/L 6010B	Chromium mg/L 6010B	Hexavalent Chromium mg/L 7196A	Cobalt mg/L 6010B	Copper mg/L 6010B
WCC-03S	2/3/2001	<0.2	0.0022 B	0.017	0.26	<0.005	<0.005	<0.01	<0.02	<0.05	<0.025
WCC-03D	2/3/2001	<0.2	0.0022 B	0.0058 B	0.083	<0.005	<0.005	0.011	<0.2	0.019 B	0.0058 B
WCC-04S	1/24/2001	0.13 B	<0.06	<0.01	0.31	<0.005	<0.005	0.015	0.013 B	<0.05	0.0048 B
WCC-05S	1/29/2001	<0.2	0.0024 B	<0.01	0.24	<0.005	<0.005	0.0092 B	<0.02	<0.05	<0.025
WCC-06S	1/25/2001	1.2	<0.06	<0.01	0.084	<0.005	<0.005	0.019	<0.02	0.0015 B	0.0041 B
WCC-07S	1/24/2001	<0.2	0.0024 B	<0.01	0.2	<0.005	<0.005	0.018	0.01 B	<0.05	0.0061 B
WCC-07S DUP	1/24/2001	<0.2	<0.06	<0.01	0.2	<0.005	<0.005	0.015	0.012 B	<0.05	0.0058 B
WCC-09S	1/19/2001	2.1	<0.06	<0.01	0.24	<0.005	<0.005	0.026	0.018 B	<0.05	0.01 B
WCC-10S	1/18/2001	0.11 B	<0.06	<0.01	0.036	<0.005	<0.005	0.014	0.016 B	<0.05	0.004 B
WCC-11S	1/29/2001	<0.2	0.003 B	<0.01	0.09	<0.005	<0.005	0.016	0.013 B	<0.05	<0.025
WCC-12S	1/25/2001	5	0.0023 B	<0.01	0.14	<0.005	<0.005	0.034	0.015 B	0.0034 B	0.011 B
DAC-P1	1/18/2001	1.6	0.0078 B	0.0041 B	0.13	<0.005	<0.005	0.59	0.59	<0.05	0.0052 B
TMW-01	1/29/2001	5.4	0.0057 B	<0.01	0.35	<0.005	<0.005	0.045	0.027	0.0028 B	0.0087 B
TMW-02	2/3/2001	<0.2	0.0028 B	0.014	0.38	<0.005	<0.005	0.12	<0.02	0.0042 B	0.0095 B
TMW-03	1/29/2001	<0.2	0.0023 B	0.005 B	0.16	<0.005	<0.005	0.098	0.037	0.0042 B	0.024 B
TMW-04 DUP	1/29/2001	<0.2	0.0037 B	<0.01	0.13	<0.005	<0.005	0.021	0.017 B	<0.05	<0.025
TMW-05	1/29/2001	<0.2	0.0044 B	<0.01	0.13	<0.005	<0.005	0.02	0.018 B	<0.05	0.0054 B
TMW-06	1/29/2001	<0.2	0.0035 B	<0.01	0.13	<0.005	<0.005	0.014	0.015 B	<0.05	<0.025
TMW-07	1/25/2001	0.51	<0.06	0.026	0.15	<0.005	<0.005	0.023	0.017 B	<0.05	<0.025
TMW-08	1/25/2001	12	0.0032 B	0.052	0.24	<0.005	<0.005	0.012	0.014 B	<0.02	0.0095 B
TMW-09	1/29/2001	<0.2	0.0045 B	0.014	0.38	<0.005	<0.005	0.15	0.031	0.0065 B	0.081
TMW-10	1/19/2001	47.9	0.0056 B	0.017	0.46	0.0015 B	<0.005	0.17	0.023	0.03 B	0.12
TMW-10	5/10/2001	<0.2	<0.06	<0.01	0.14	<0.005	<0.005	0.14	<0.02	<0.05	<0.025
TMW-11	1/24/2001	15	<0.06	0.0053 B	0.53	<0.005	<0.005	0.069	0.035	0.011 B	0.07
TMW-12	1/25/2001	4.8	0.002 B	<0.01	0.4	<0.005	<0.005	0.032	<0.02	0.0036 B	0.011 B
TMW-13	5/10/2001	41.7	<0.06	<0.01	0.11	<0.005	<0.005	0.012	<0.02	<0.05	0.0047 B
TMW-14	1/25/2001	41.7	0.0033 B	0.031	0.45	0.0015 B	0.001 B	0.31	<0.02	0.024 B	0.072
TMW-15	1/25/2001	60.2	0.002 B	0.024	0.32	0.0019 B	<0.005	0.54	<0.02	0.035 B	0.074
TMW-16	1/25/2001	46.5	0.0024 B	0.031	0.27	0.0013 B	<0.005	0.2	0.014 B	0.021 B	0.051
BL-01	1/18/2001	52.4	0.0037 B	0.052	0.28	0.0018 B	0.0011 B	0.12	<0.02	0.033 B	0.076
BL-02	1/19/2001	61.7	0.0063 B	0.086	0.43	0.0018 B	<0.005	0.18	0.012 B	0.032 B	0.077
BL-03	1/18/2001	23.3	0.0066 B	0.014	0.45	<0.005	<0.005	0.095	<0.02	0.0087 B	0.029
XMW-09	1/29/2001	<0.2	0.0023 B	<0.01	0.46	<0.005	<0.005	0.012	<0.02	<0.05	0.0051 B
XMW-18	1/24/2001	0.16 B	<0.06	<0.01	0.079	<0.005	<0.005	0.0084 B	<0.02	<0.05	<0.025
XMW-19	3/21/2001	0.16 B	0.019 B	0.0089 B	0.34	<0.005	<0.005	4.4	0.055	0.13	0.048

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Lead mg/L 6010B	Mercury mg/L 7470A	Molybdenum mg/L 6010B	Nickel mg/L 6010B	Selenium mg/L 6010B	Silver mg/L 6010B	Thallium mg/L 6010B	Vanadium mg/L 6010B	Zinc mg/L 6010B
WCC-03S	2/3/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	<0.05	<0.02
WCC-03D	2/3/2001	0.039	<0.0002	0.004 B	0.0047 B	0.0057	<0.01	<0.01	0.0041 B	0.07
WCC-04S	1/24/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	0.0018 B	0.032
WCC-05S	1/28/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	0.0025 B	<0.02
WCC-06S	1/25/2001	<0.005	<0.0002	0.0058 B	0.0036 B	<0.005	<0.01	<0.01	0.0047 B	<0.02
WCC-07S	1/24/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	0.0013 B	0.077
WCC-07S DUP	1/24/2001	<0.005	<0.0002	<0.04	<0.04	0.0054	<0.01	<0.01	0.0013 B	0.045
WCC-09S	1/19/2001	0.021	<0.0002	<0.04	0.0054 B	<0.005	<0.01	<0.01	0.0076 B	0.087
WCC-10S	1/18/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	0.0023 B	<0.02
WCC-11S	1/28/2001	<0.005	0.0015 B	<0.04	<0.04	0.0057	<0.01	<0.01	0.004 B	<0.02
WCC-12S	1/25/2001	0.0033 B	<0.0002	0.0037 B	0.01 B	0.0044 B	<0.01	<0.01	0.014 B	0.045
DAC-P1	1/18/2001	<0.005	<0.0002	0.005 B	0.0033 B	<0.005	<0.01	<0.01	0.011 B	0.016 B
TMW-01	1/28/2001	0.0028 B	<0.0002	0.0042 B	0.02 B	0.009	<0.01	<0.01	0.012 B	0.026
TMW-02	2/3/2001	0.0024 B	<0.0002	<0.004	0.013 B	<0.005	<0.01	<0.01	0.014 B	0.041
TMW-03	1/29/2001	0.0047 B	<0.0002	0.0083 B	0.048	0.0043 B	<0.01	<0.01	0.021 B	0.13
TMW-04 DUP	1/28/2001	<0.005	<0.0002	<0.04	<0.04	0.0062	<0.01	<0.01	0.0021 B	<0.02
TMW-05	1/25/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	0.0016 B	0.011 B
TMW-06	1/29/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	<0.05	<0.02
TMW-07	1/25/2001	0.002 B	<0.0002	0.0033 B	0.0032 B	<0.005	<0.01	<0.01	0.0014 B	<0.02
TMW-08	1/25/2001	0.013	<0.0002	0.013 B	0.065	0.0043 B	<0.01	<0.01	0.0021 B	0.011 B
TMW-09	1/29/2001	0.45	<0.0002	0.0084 B	0.039 B	0.0061	<0.01	<0.01	0.031 B	0.13
TMW-10	1/19/2001	0.052	0.00034	0.011 B	0.083	<0.005	<0.01	<0.01	0.031 B	0.39
TMW-10	5/10/2001	<0.005	<0.0002	0.0039 B	<0.04	0.0061	<0.01	<0.01	0.14	0.26
TMW-11	1/24/2001	0.0051	0.00019 B	0.0045 B	0.036 B	0.0051	<0.01	<0.01	<0.05	<0.02
TMW-12	1/25/2001	0.0027 B	0.00016 B	0.0036 B	0.017 B	<0.005	<0.01	<0.01	0.014 B	0.021
TMW-13	5/10/2001	<0.005	<0.0002	<0.04	<0.04	<0.005	<0.01	<0.01	0.0016 B	<0.02
TMW-14	1/25/2001	0.022	0.00012 B	0.037 B	0.19	<0.005	<0.01	<0.01	0.11	0.17
TMW-15	1/25/2001	0.021	0.00016 B	0.061	0.35	<0.005	<0.01	<0.01	0.17	0.22
TMW-16	1/25/2001	0.016	0.0002	0.014 B	0.088	<0.005	<0.01	<0.01	0.12	0.12
BL-01	1/18/2001	0.022	0.00018 B	0.011 B	0.087	<0.005	<0.01	0.0064 B	0.17	0.18
BL-02	1/19/2001	0.019	<0.0002	0.0047 B	0.082	<0.005	<0.01	0.001 B	0.17	0.32
BL-03	1/18/2001	0.008	0.00011 B	0.0043 B	0.036 B	<0.005	<0.01	0.0051 B	0.06	0.081
XMW-09	1/29/2001	<0.005	<0.0002	0.003 B	0.016 B	0.0059	<0.01	<0.01	0.0043 B	<0.02
XMW-18	1/24/2001	0.00066	<0.0002	<0.04	<0.04	0.01	<0.01	0.0031 B	0.033	0.02
XMW-19	3/21/2001	<0.005	0.00015 B	0.23	0.65	<0.005	<0.01	<0.01	0.040 B	<0.02

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled
WCC-03S	2/3/2001
WCC-03D	2/3/2001
WCC-04S	1/24/2001
WCC-05S	1/29/2001
WCC-06S	1/25/2001
WCC-07S	1/24/2001
WCC-07S DUP	1/24/2001
WCC-09S	1/19/2001
WCC-10S	1/18/2001
WCC-11S	1/29/2001
WCC-12S	1/25/2001
DAC-P1	1/18/2001
TMW-01	1/29/2001
TMW-02	2/3/2001
TMW-03	1/29/2001
TMW-04	1/29/2001
TMW-04 DUP	1/29/2001
TMW-05	1/25/2001
TMW-06	1/28/2001
TMW-07	1/25/2001
TMW-08	1/25/2001
TMW-09	1/29/2001
TMW-10	1/19/2001
TMW-10	5/10/2001
TMW-11	1/24/2001
TMW-12	1/25/2001
TMW-13	5/10/2001
TMW-14	1/25/2001
TMW-15	1/25/2001
TMW-16	1/25/2001
BL-01	1/18/2001
BL-02	1/19/2001
BL-03	1/18/2001
XMW-09	1/29/2001
XMW-18	1/24/2001
XMW-19	3/21/2001

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled
WCC-03S	2/3/2001
WCC-03D	2/3/2001
WCC-04S	1/24/2001
WCC-05S	1/29/2001
WCC-06S	1/25/2001
WCC-07S	1/24/2001
WCC-07S DUP	1/24/2001
WCC-09S	1/19/2001
WCC-10S	1/18/2001
WCC-11S	1/29/2001
WCC-12S	1/25/2001
DAC-P1	1/18/2001
TMW-01	1/29/2001
TMW-02	2/3/2001
TMW-03	1/29/2001
TMW-04	1/29/2001
TMW-04 DUP	1/29/2001
TMW-05	1/25/2001
TMW-06	1/29/2001
TMW-07	1/25/2001
TMW-08	1/25/2001
TMW-09	1/29/2001
TMW-10	1/19/2001
TMW-10	5/10/2001
TMW-11	1/24/2001
TMW-12	1/25/2001
TMW-13	5/10/2001
TMW-14	1/25/2001
TMW-15	1/25/2001
TMW-16	1/25/2001
BL-01	1/18/2001
BL-02	1/19/2001
BL-03	1/18/2001
XMW-09	1/29/2001
XMW-18	1/24/2001
XMW-19	3/21/2001

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled
WCC-03S	2/3/2001
WCC-03D	2/3/2001
WCC-04S	1/24/2001
WCC-05S	1/29/2001
WCC-06S	1/25/2001
WCC-07S	1/24/2001
WCC-07S DUP	1/24/2001
WCC-09S	1/19/2001
WCC-10S	1/18/2001
WCC-11S	1/29/2001
WCC-12S	1/25/2001
DAC-P1	1/18/2001
TMW-01	1/28/2001
TMW-02	2/3/2001
TMW-03	1/29/2001
TMW-04	1/29/2001
TMW-04 DUP	1/29/2001
TMW-05	1/25/2001
TMW-06	1/29/2001
TMW-07	1/25/2001
TMW-08	1/25/2001
TMW-09	1/29/2001
TMW-10	1/19/2001
TMW-10	5/10/2001
TMW-11	1/24/2001
TMW-12	1/25/2001
TMW-13	5/10/2001
TMW-14	1/25/2001
TMW-15	1/25/2001
TMW-16	1/25/2001
BL-01	1/18/2001
BL-02	1/19/2001
BL-03	1/18/2001
XMW-09	1/29/2001
XMW-18	1/24/2001
XMW-19	3/21/2001

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled
WCC-03S	2/3/2001
WCC-03D	2/3/2001
WCC-04S	1/24/2001
WCC-05S	1/29/2001
WCC-06S	1/25/2001
WCC-07S	1/24/2001
WCC-07S DUP	1/24/2001
WCC-08S	1/19/2001
WCC-10S	1/18/2001
WCC-11S	1/29/2001
WCC-12S	1/25/2001
DAC-P1	1/18/2001
TMW-01	1/29/2001
TMW-02	2/3/2001
TMW-03	1/29/2001
TMW-04	1/29/2001
TMW-04 DUP	1/28/2001
TMW-05	1/25/2001
TMW-06	1/29/2001
TMW-07	1/25/2001
TMW-08	1/25/2001
TMW-09	1/29/2001
TMW-10	1/19/2001
TMW-10	5/10/2001
TMW-11	1/24/2001
TMW-12	1/25/2001
TMW-13	5/10/2001
TMW-14	1/25/2001
TMW-15	1/25/2001
TMW-16	1/25/2001
BL-01	1/18/2001
BL-02	1/19/2001
BL-03	1/18/2001
XMW-09	1/29/2001
XMW-18	1/24/2001
XMW-19	3/21/2001

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled
WCC-03S	2/3/2001
WCC-03D	2/3/2001
WCC-04S	1/24/2001
WCC-05S	1/29/2001
WCC-06S	1/25/2001
WCC-07S	1/24/2001
WCC-07S DUP	1/24/2001
WCC-09S	1/19/2001
WCC-10S	1/18/2001
WCC-11S	1/29/2001
WCC-12S	1/25/2001
DAC-P1	1/18/2001
TNW-01	1/29/2001
TNW-02	2/3/2001
TNW-03	1/29/2001
TNW-04	1/29/2001
TNW-04 DUP	1/29/2001
TNW-05	1/25/2001
TNW-06	1/29/2001
TNW-07	1/25/2001
TNW-08	1/25/2001
TNW-09	1/29/2001
TNW-10	1/19/2001
TNW-10	5/10/2001
TNW-11	1/24/2001
TNW-12	1/25/2001
TNW-13	5/10/2001
TNW-14	1/25/2001
TNW-15	1/25/2001
TNW-16	1/25/2001
BL-01	1/18/2001
BL-02	1/19/2001
BL-03	1/18/2001
XMW-09	1/29/2001
XMW-18	1/24/2001
XMW-19	3/21/2001

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled
WCC-03S	2/3/2001
WCC-03D	2/3/2001
WCC-04S	1/24/2001
WCC-05S	1/29/2001
WCC-06S	1/25/2001
WCC-07S	1/24/2001
WCC-07S DUP	1/24/2001
WCC-09S	1/19/2001
WCC-10S	1/18/2001
WCC-11S	1/29/2001
WCC-12S	1/25/2001
DAC-P1	1/18/2001
TMW-01	1/29/2001
TMW-02	2/3/2001
TMW-03	1/28/2001
TMW-04	1/29/2001
TMW-04 DUP	1/29/2001
TMW-05	1/25/2001
TMW-06	1/29/2001
TMW-07	1/25/2001
TMW-08	1/25/2001
TMW-09	1/29/2001
TMW-10	1/19/2001
TMW-10	5/10/2001
TMW-11	1/24/2001
TMW-12	1/25/2001
TMW-13	5/10/2001
TMW-14	1/25/2001
TMW-15	1/25/2001
TMW-16	1/25/2001
BL-01	1/18/2001
BL-02	1/19/2001
BL-03	1/18/2001
XMW-09	1/29/2001
XMW-18	1/24/2001
XMW-19	3/21/2001

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 6
Title 22 Metals (Total) & Hexavalent Chromium - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled
WCC-03S	2/3/2001
WCC-03D	2/3/2001
WCC-04S	1/24/2001
WCC-05S	1/29/2001
WCC-06S	1/25/2001
WCC-07S	1/24/2001
WCC-07S DUP	1/24/2001
WCC-09S	1/19/2001
WCC-10S	1/18/2001
WCC-11S	1/29/2001
WCC-12S	1/25/2001
DAC-P1	1/18/2001
TMW-01	1/29/2001
TMW-02	2/3/2001
TMW-03	1/29/2001
TMW-04	1/29/2001
TMW-04 DUP	1/29/2001
TMW-05	1/29/2001
TMW-06	1/29/2001
TMW-07	1/25/2001
TMW-08	1/25/2001
TMW-09	1/29/2001
TMW-10	1/19/2001
TMW-10	5/10/2001
TMW-11	1/24/2001
TMW-12	1/25/2001
TMW-13	5/10/2001
TMW-14	1/25/2001
TMW-15	1/25/2001
TMW-16	1/25/2001
BL-01	1/18/2001
BL-02	1/19/2001
BL-03	1/18/2001
XMW-09	1/29/2001
XMW-18	1/24/2001
XMW-19	3/21/2001

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

Table 7

Natural Attenuation Parameters - January/February 2001
 Boeing Realty Corporation Former C-6 Facility

Well	Sample Date	3500-FE D		300.0A		2320 B		415.1		SOP-175		Conduc-tivity $\mu\text{s}/\text{cm}$	Temp. $^{\circ}\text{C}$	DO mg/L	ORP mV	
		Ferrous Iron mg/L	Chloride mg/L	Nitrate as N mg/L	Nitrite as N mg/L	Sulfate mg/L	Total Alkalinity mg/L	TOC mg/L	Ethane mg/L	Ethene mg/L	Methane mg/L					
WCC-03S	2/3/2001	13.4	529	0.44	<0.5 G	6.8	403	43.9	<0.002	<0.001	0.0013	7.50	68	23.7	0.30	-33
WCC-03D	2/3/2001	<1	92.2	0.66	<0.1	28.3	199	4.5	<0.002	<0.001	0.0015	6.50	0.26	23.3	0.20	-187
WCC-05S	1/23/01	<1	206	12.8	<0.5 G	61.2	391	9.2	<0.002	<0.001	<0.001	7.07	1.77	23.6	7.08	145
WCC-06S	1/22/01	0.98 B	433	1.1	<0.5 G	13.4	313	11.4	<0.002	<0.001	<0.001	6.94	2.34	24.1	2.62	-52
WCC-11S	1/23/01	<1	199	2.8	<0.5 G	105	400	6.6	<0.002	<0.001	0.0018	7.22	1.72	23.0	5.22	121
WCC-11S DUP	1/23/01	<1	203	2.9	<0.5 G	107	401	8.6	<0.002	<0.001	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001
WCC-12S	1/22/01	<1	270	4.1	<0.5 G	53.3	225	7.6	<0.002	<0.001	7.12	1.61	24.1	7.41	131	
WCC-12S DUP	1/22/01	<1	272	4.1	<0.5 G	52.9	226	7.0	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
TMW-02	2/3/2001	6.2	484	3.0	<0.5 G	46	559	34.8	<0.002	<0.001	0.0011	6.70	0.29	23.3	0.20	-180
TMW-03	1/29/01	0.14 B	156	5.2	<0.5 G	83.3	267	2.2	<0.002	<0.001	<0.001	7.20	0.92	24.6	8.89	98
TMW-04	1/29/01	<1	369	2.7	<0.5 G	23.3	244	4.7	<0.002	<0.001	<0.001	7.12	1.76	23.3	6.67	95
TMW-04 DUP	1/29/01	<1	381	2.8	<0.5 G	23.4	242	8.7	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
TMW-05	1/23/01	<1	77	5.1	<0.5 G	59.8	193	4.0	<0.002	<0.001	<0.001	7.25	0.66	23.2	9.55	139
TMW-06	1/29/01	<1	350	6.4	<0.5 G	71.8	247	1.6	<0.002	<0.001	<0.001	7.05	2.13	21.5	7.06	97
TMW-07	1/22/01	0.18 B	355	2.9	<0.5 G	78.6	253	11.4	<0.002	<0.001	<0.001	7.17	1.87	24.6	5.00	81
TMW-09	1/29/01	2.3	300	5.2	<0.5 G	25.7	197	2.1	<0.002	<0.001	<0.001	7.26	1.57	24.5	7.72	73
TMW-10	5/10/2001	<1	347	5.7	<0.5 UG	43.1	9	<0.002	<0.001	<0.001	6.22	160	23.9	5.1	54	
TMW-12	1/22/01	0.28 B	380	4.2	<0.5 G	42.3	334	9.9	<0.002	<0.001	0.001 MBE	6.79	2.04	24.5	3.24	113
TMW-13	5/10/2001	<1	222	6.8	<0.5 UG	142	17	<0.002	<0.001	<0.001	7.55	170	23.1	6.7	84	
XMW-09	1/29/01	<1	330	4.3	<0.5 G	29.5	488	3.6	<0.002	<0.001	<0.001	6.68	2.21	23.6	3.19	55
XMW-19	3/21/2001	0.2 B	372	5.5	<0.5 G	34.4	235	5	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

TOC - Total Organic Carbon

DO - Dissolved Oxygen

ORP - Oxidation Reduction Potential

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit due to matrix interference, G = Elevated reporting limit, MBE = Analyte present in method blank

Table 8
Dissolved Metals & Cations - January/February 2001
Boeing Realty Corporation Former C-6 Facility

Well	Date Sampled	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum
		mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 6010B	mg/L 7470A	mg/L 6010B
WCC-03S	2/3/2001	<0.20	0.0046 B	0.016	1.0	<0.005	<0.01	<0.05	<0.025	<0.005	<0.0002	0.0038 B	
WCC-03D	2/3/2001	<0.20	<0.06	<0.01	0.67	<0.005	<0.01	0.0013 B	<0.025	<0.005	<0.0002	<0.04	
WCC-05S	#####	<0.20	<0.06	<0.01	0.81	<0.005	<0.005	0.011	<0.05	0.0053 B	<0.005	<0.0002	<0.04
WCC-06S	#####	<0.20	0.0025 B	0.021	0.79	<0.005	<0.005	0.0011 B	0.0021 B	0.005 B	<0.005	<0.0002	0.004 B
WCC-11S	#####	<0.20	<0.06	<0.01	0.62	<0.005	<0.005	0.017	<0.05	<0.025	<0.005	0.0016 B	<0.04
WCC-11S DUP	#####	<0.20	<0.06	<0.01	0.24	<0.005	<0.005	0.018	<0.05	<0.025	<0.005	0.0002	0.003 B
WCC-12S	#####	<0.20	<0.06	<0.01	0.75	<0.005	<0.005	0.014	<0.05	<0.025	<0.005	<0.0002	<0.04
WCC-12S DUP	#####	<0.20	<0.06	<0.01	0.23	<0.005	<0.005	0.013	<0.05	<0.025	<0.005	<0.0002	<0.04
TMW-02	2/3/2001	<0.20	0.0042 B	0.011	0.98	<0.005	<0.005	0.016	0.0016 B	<0.025	<0.005	<0.0002	<0.04
TMW-03	#####	<0.20	0.0051 B	<0.01	0.59	<0.005	<0.005	0.018	<0.05	0.0051 B	<0.005	<0.0002	<0.04
TMW-04	#####	<0.20	0.0056 B	<0.01	0.26	<0.005	<0.005	0.02	<0.05	<0.025	<0.005	<0.0002	0.0034 B
TMW-04 DUP	#####	<0.20	0.0023 B	<0.01	0.76	<0.005	<0.005	0.02	<0.05	0.025	<0.005	<0.0002	<0.04
TMW-05	#####	<0.20	<0.06	<0.01	0.54	<0.005	<0.005	0.014	<0.05	<0.025	<0.005	<0.0002	0.0067 B
TMW-06	#####	<0.20	0.008 B	<0.01	0.7	<0.005	<0.005	0.021	<0.05	0.0054 B	<0.005	<0.0002	<0.04
TMW-07	#####	<0.20	0.0044 B	<0.01	0.69	<0.005	<0.005	0.019	0.0012 B	<0.025	<0.005	<0.0002	0.0045 B
TMW-09	#####	<0.20	0.0048 B	<0.01	0.7	<0.005	<0.005	0.02	<0.05	<0.025	<0.005	<0.0002	<0.04
TMW-10	#####												
TMW-12	#####	0.23	0.0037 B	<0.01	0.97	<0.005	<0.005	0.0075 B	<0.05	0.0041 B	<0.005	<0.0002	<0.04
TMW-13	#####												
XMW-09	#####	<0.20	0.0044 B	<0.01	1.0	<0.005	<0.005	0.0013 B	<0.05	<0.025	<0.005	<0.0002	<0.04
XMW-19	#####	<0.20	<0.06	<0.01	0.21	<0.005	<0.005	0.11	0.0031 B	<0.025	<0.005	<0.0002	0.040

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

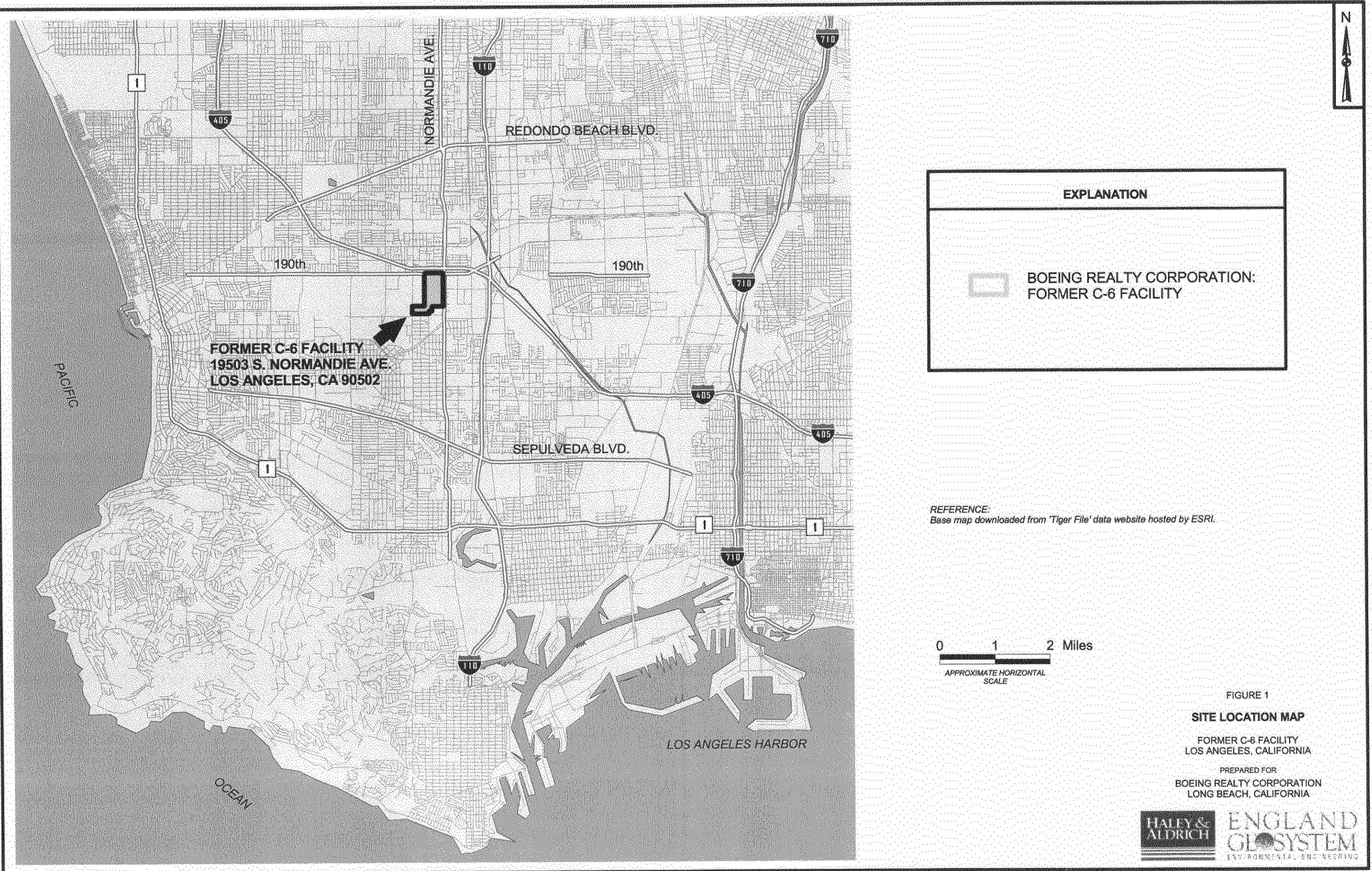
Table 8
Dissolved Metals & Cations - January/February 2001
Boeing Realty Corporation Former C-6 Facility

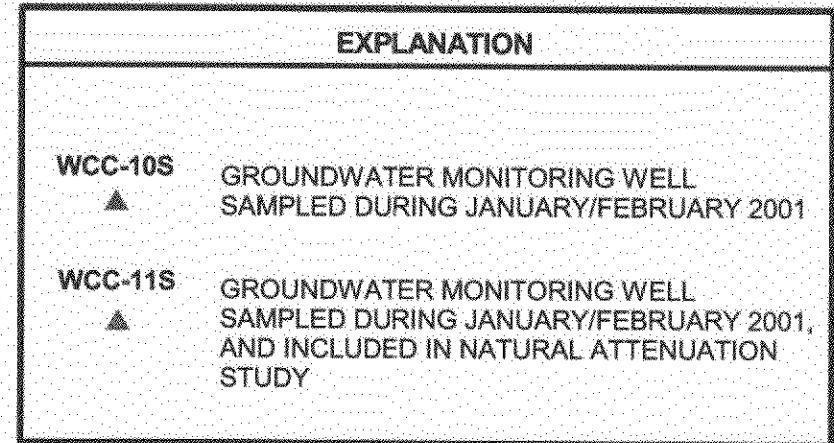
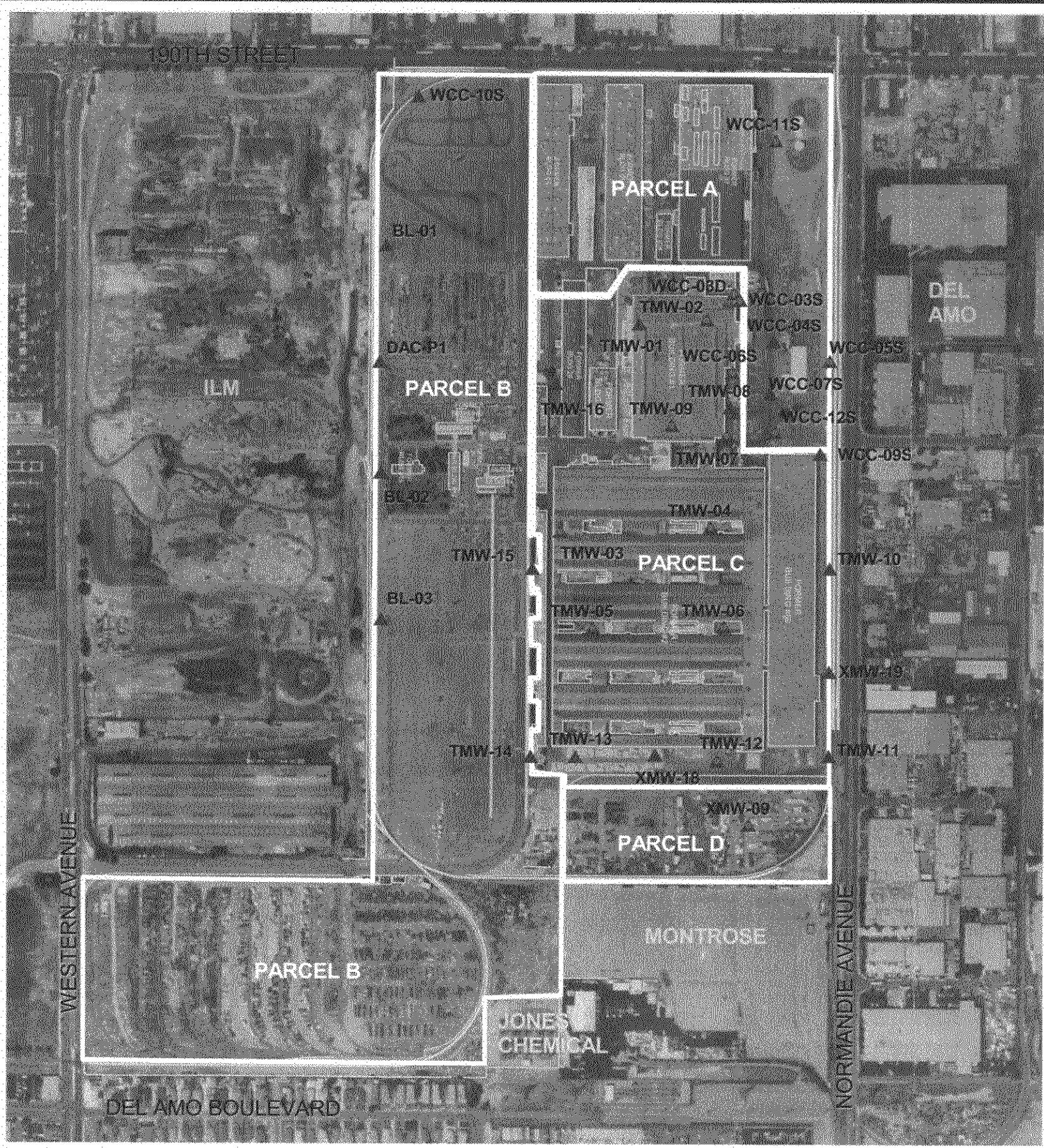
Well	Date Sampled	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Aluminum	Calcium	Iron	Magnesium	Manganese	Sodium
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		6010B	6010B	6010B	6010B	6010B	6010B	6010B	6010B	6010B	6010B	6010B	6010B
WCC-03S	2/3/2001	<0.04	<0.005	<0.01	<0.01	<0.05	0.3	<0.2	275	14.8	66.9	2.4	115
WCC-03D	2/3/2001	<0.04	0.0042 B	<0.01	<0.01	0.0018 B	0.11	0.31	67.8	0.69	15.2	0.33	61.4
WCC-05S	#####	<0.04	0.0045 B	<0.01	<0.01	0.0025 B	0.3	<0.2	171	0.048 B	32	0.0014 B	110
WCC-06S	#####	<0.04	0.0077	<0.01	<0.01	<0.05	0.27	1.0	214	4.5	47.9	1.8	99.7
WCC-11S	#####	<0.04	0.0047 B	<0.01	<0.01	0.0041 B	0.27	<0.2	180	0.05 B	32.6	0.001 B	98.9
WCC-11S DUP	#####	<0.04	0.0048 B	<0.01	<0.01	0.0034 B	0.051	<0.2	184	0.032 B	33.5	<0.015	101
WCC-12S	#####	<0.04	<0.005	<0.01	<0.01	0.0018 B	0.25	<0.2	140	0.041 B	28.1	<0.015	95.6
WCC-12S DUP	#####	<0.04	0.0047 B	<0.01	<0.01	0.0011 B	0.048	<0.2	143	<0.1	28.7	<0.015	98
TMW-02	2/3/2001	<0.04	<0.005	<0.01	<0.01	<0.05	0.32	5.6	293	12.9	66.9	1.5	158
TMW-03	#####	<0.04	0.0047 B	<0.01	<0.01	0.0023 B	0.22	8.6	114	8.2	30.1	0.14	104
TMW-04	#####	<0.04	<0.005	<0.01	<0.01	0.0014 B	0.052	0.12 B	171	0.24	32	0.005 B	107
TMW-04 DUP	#####	<0.04	0.0081	<0.01	<0.01	0.0012 B	0.22	0.083 B	169	0.21	31.1	0.0042 B	107
TMW-05	#####	<0.04	0.0042 B	<0.01	<0.01	0.0025 B	0.18	1.8	61	2.2	13.6	0.026	81.4
TMW-06	#####	<0.04	0.0098	<0.01	<0.01	0.0012 B	0.29	0.1 B	177	0.19	32.6	0.0037 B	109
TMW-07	#####	<0.04	0.0091	<0.01	<0.01	0.0011 B	0.28	4.8	185	6.2	41.2	0.1	113
TMW-09	#####	<0.04	<0.005	<0.01	0.0006 B	0.0019 B	0.17	10	143	15.5	29.7	0.21	99.4
TMW-10	#####	<0.04	<0.005	<0.01	<0.01	0.0016 B	0.31	11.3	211	14.3	51.1	0.56	107
TMW-12	#####	<0.04	<0.005	<0.01	<0.01	0.0016 B	0.31						
TMW-13	#####												
XMW-09	#####	0.013 B	0.0052	<0.01	<0.01	0.0012 B	0.3	1.0	213	1.6	55.2	0.025	107
XMW-19	#####	0.34	<0.005	<0.01	<0.01	0.0011 B	0.010 B	0.16 B	168	26.5	28.8	1.5	105

Notes: DUP = Duplicate, B = Estimated, result is less than reporting limit

FIGURES

Figures





REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 300 600 Feet
APPROXIMATE HORIZONTAL SCALE

FIGURE 2

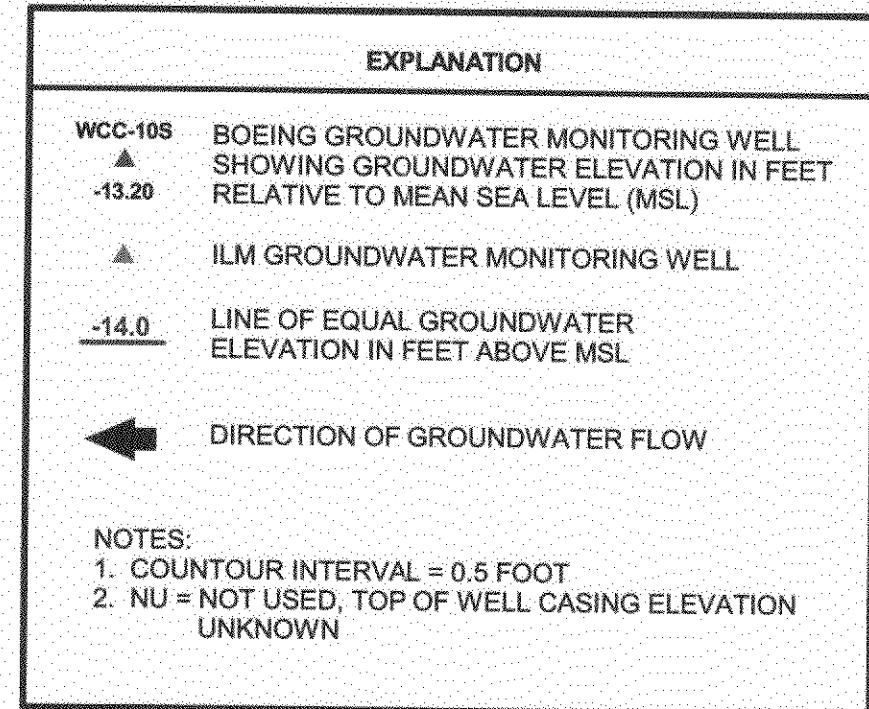
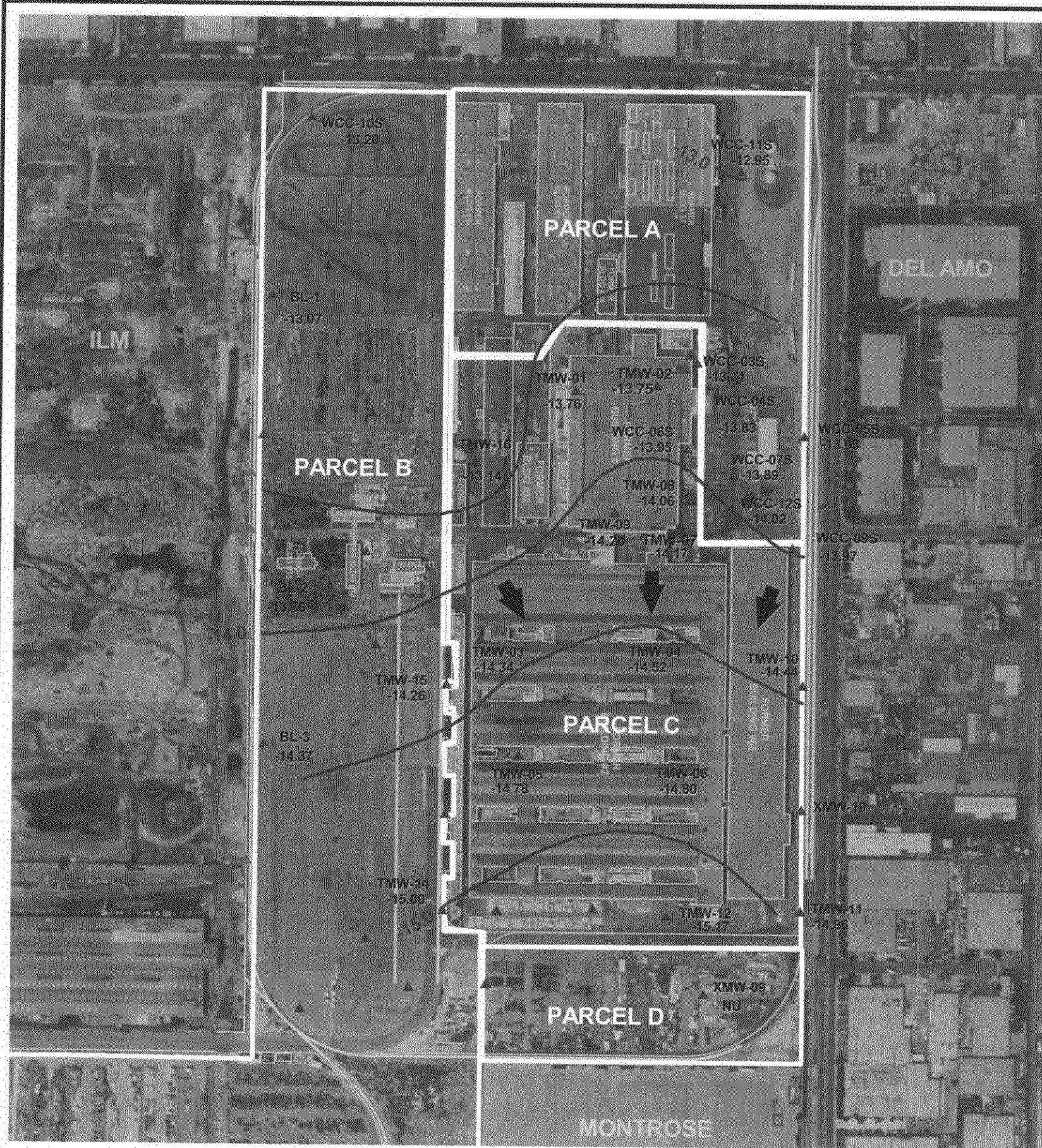
SITE PLAN SHOWING GROUNDWATER
MONITORING WELL SAMPLE LOCATIONS
ANNUAL EVENT
JANUARY/FEBRUARY 2001

FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA



N



REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 200 400 Feet
APPROXIMATE HORIZONTAL SCALE

FIGURE 3

GROUNDWATER ELEVATION MAP
ANNUAL EVENT
JANUARY/FEBRUARY 2001

FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA



ENGLAND
GEOSYSTEM
ENVIRONMENTAL ENGINEERING

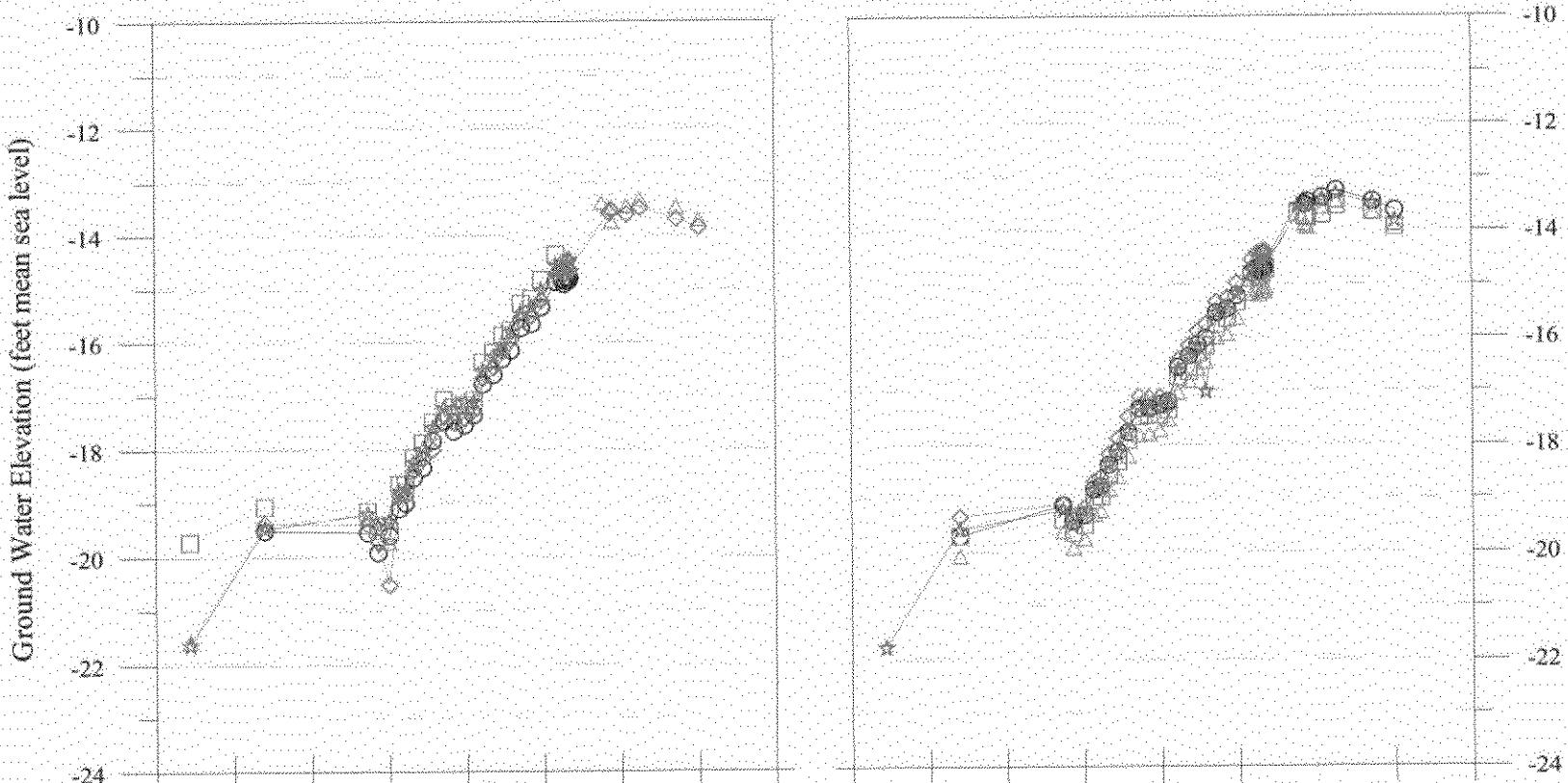


FIGURE 4a
HYDROGRAPHS
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

HALEY & ALDRICH

BOE-C6-0048372

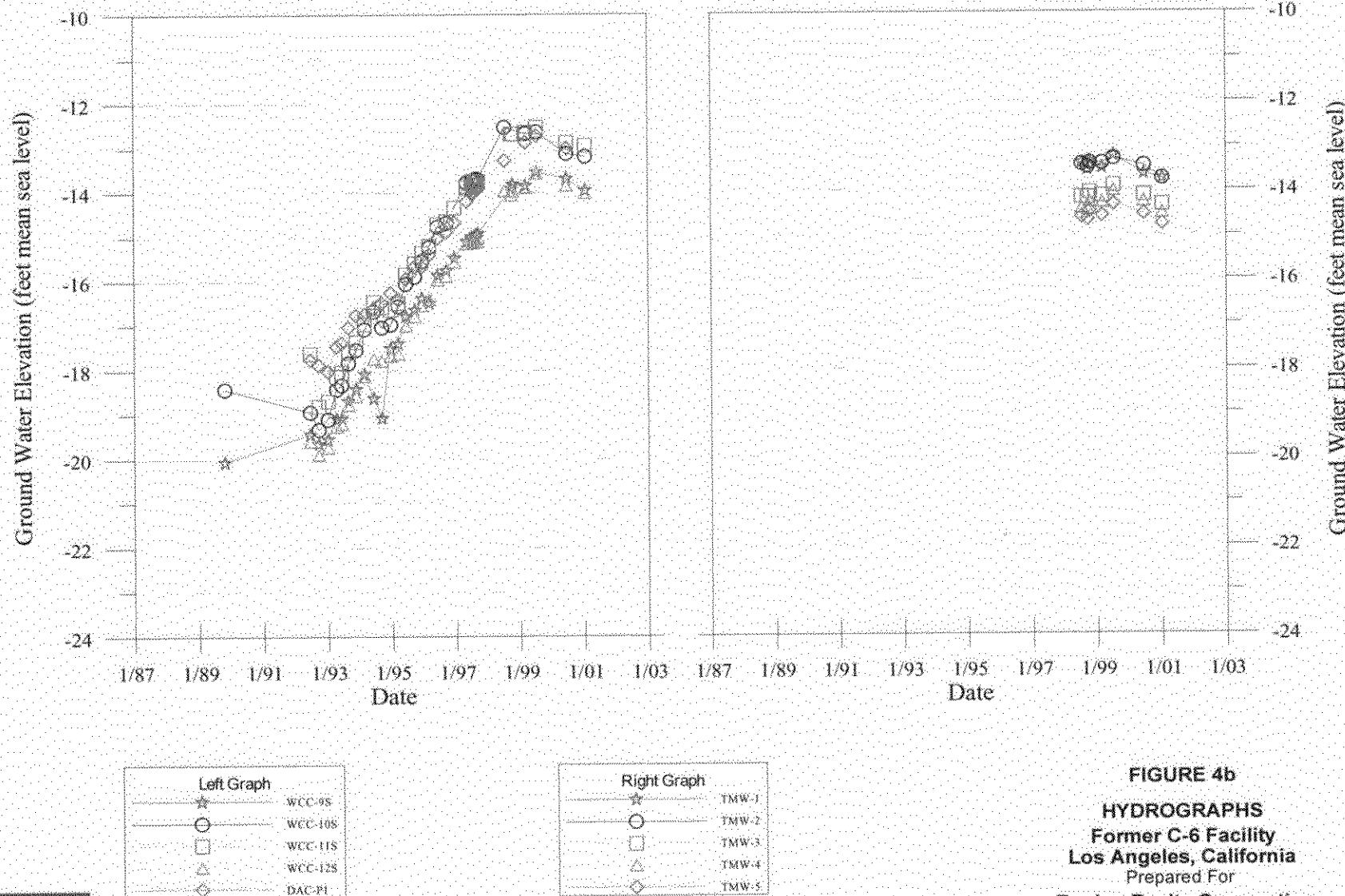


FIGURE 4b
HYDROGRAPHS
Former C-6 Facility
Los Angeles, California
 Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

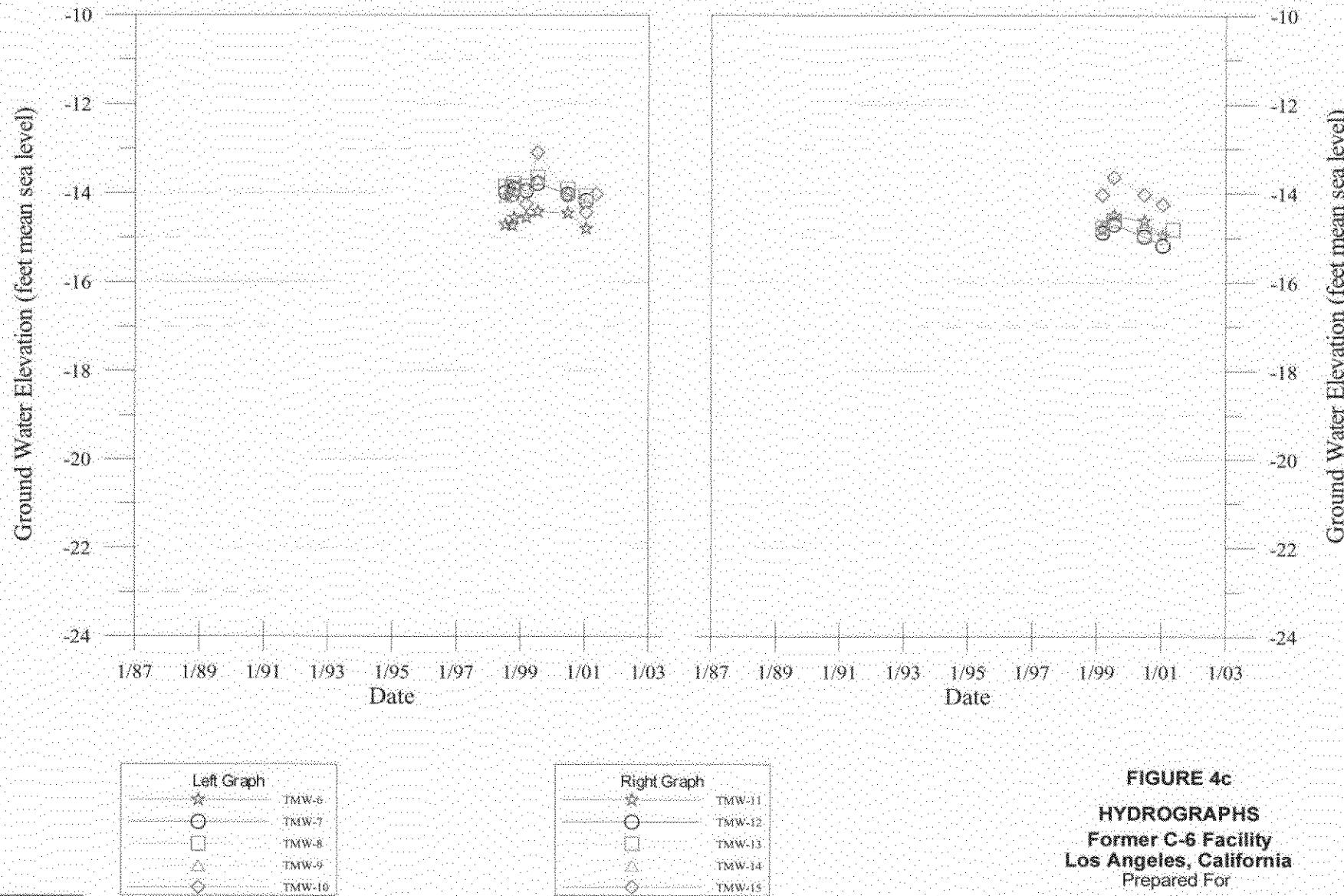


FIGURE 4c
HYDROGRAPHS
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

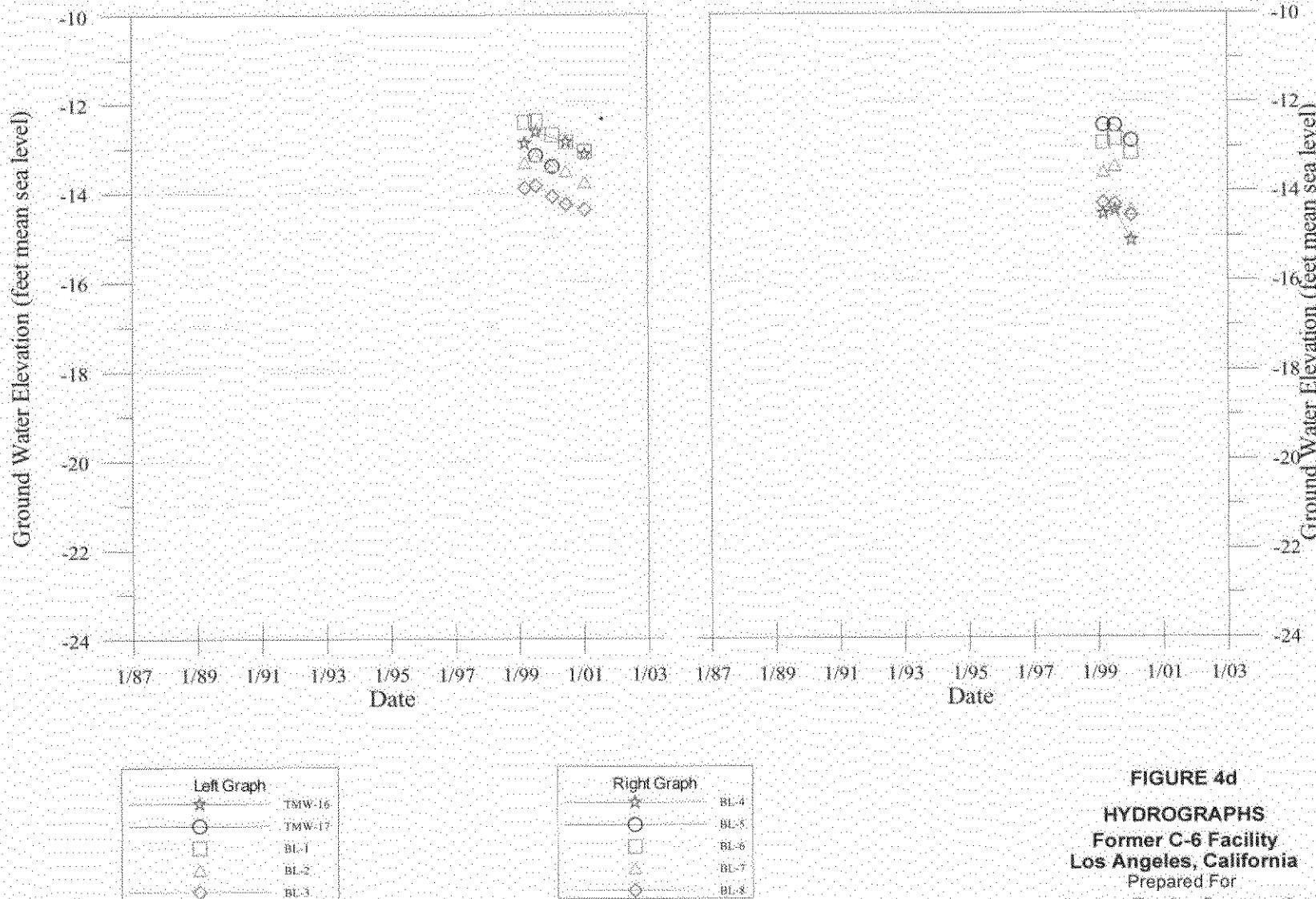
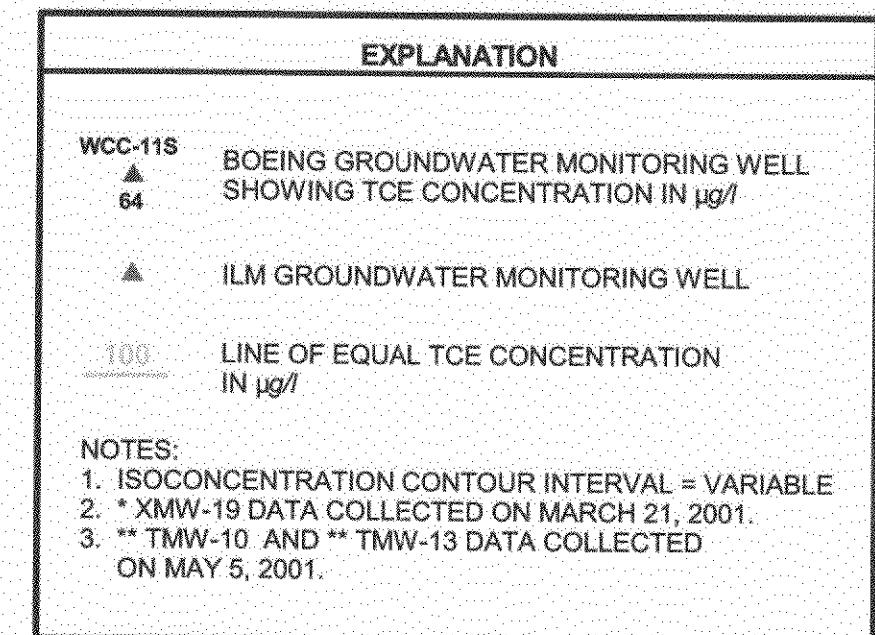
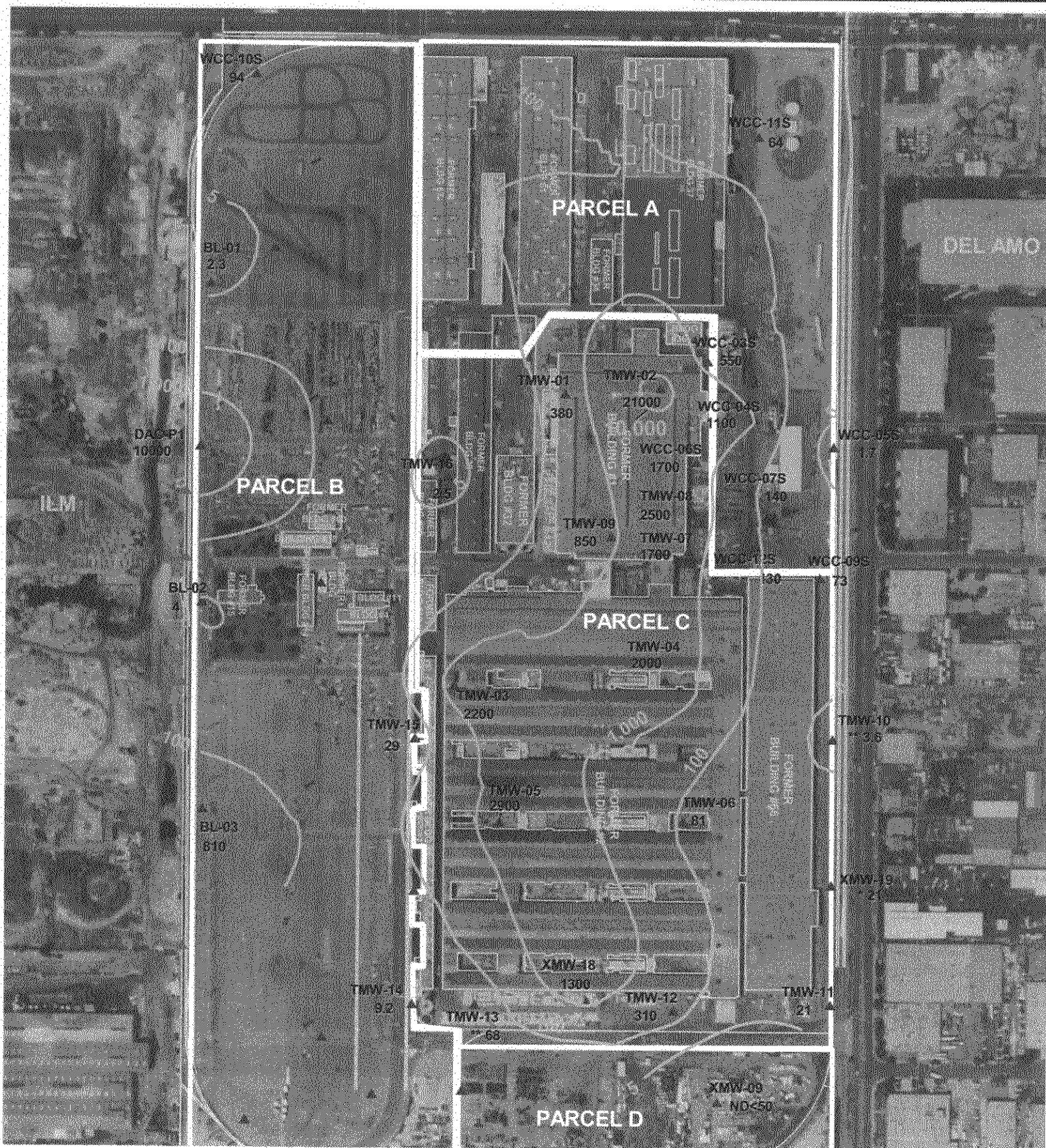


FIGURE 4d
HYDROGRAPHS
Former C-6 Facility
Los Angeles, California
 Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM



REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 200 400 Feet

APPROXIMATE HORIZONTAL SCALE

FIGURE 5

**TCE DISTRIBUTION IN GROUNDWATER
ANNUAL EVENT
JANUARY/FEBRUARY 2001**

FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA



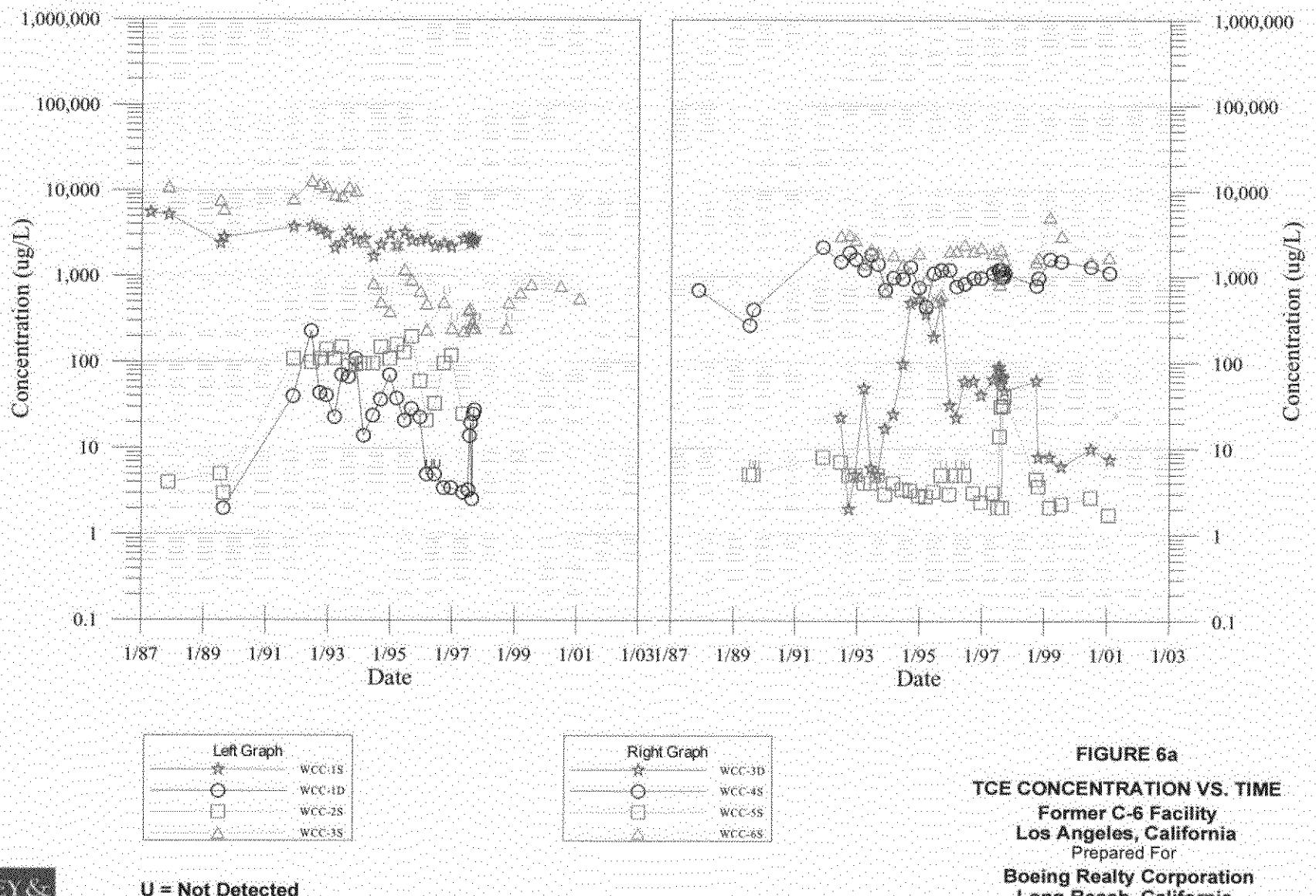


FIGURE 6a
TCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
 Prepared For
Boeing Realty Corporation
Long Beach, California

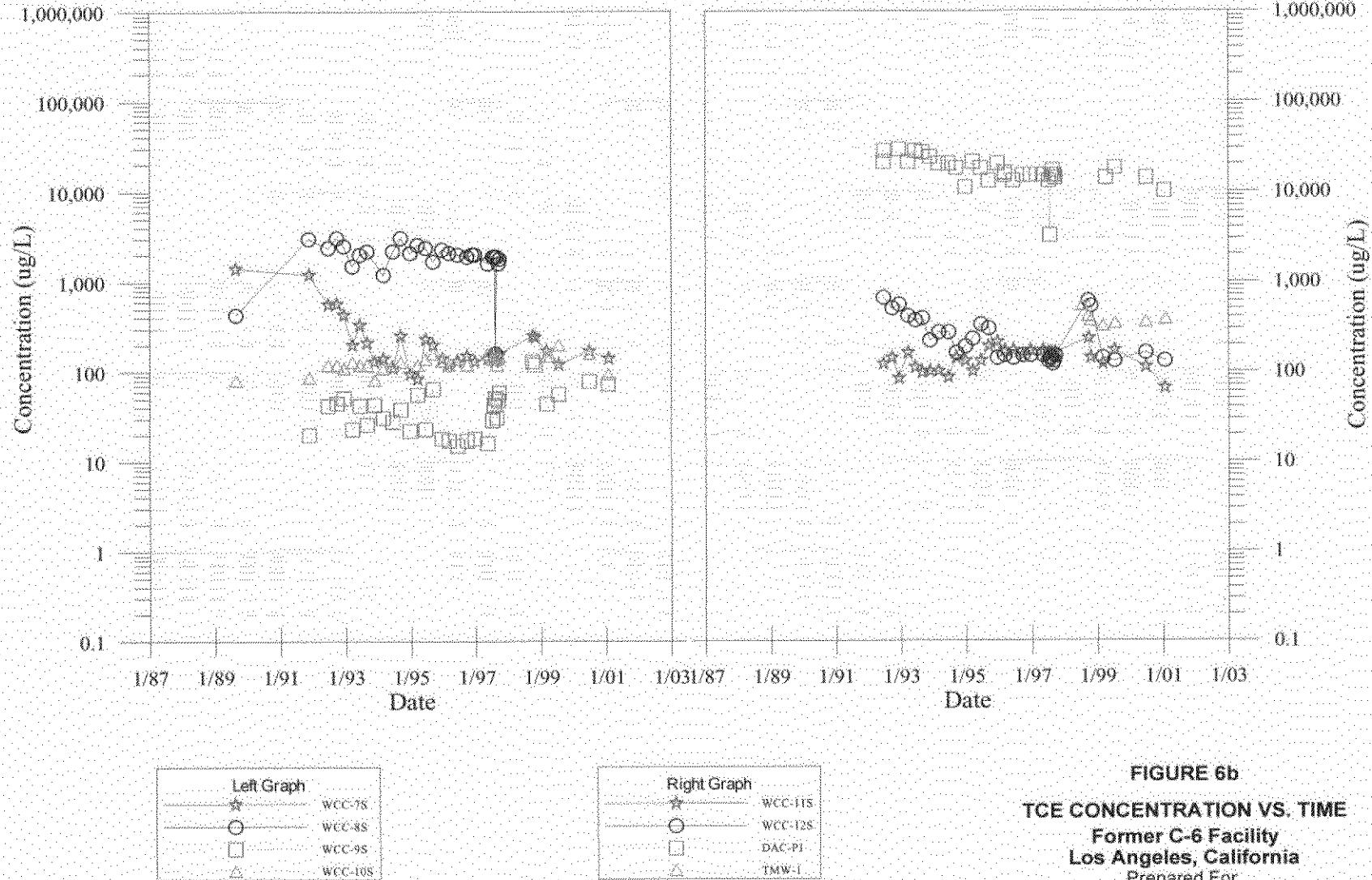
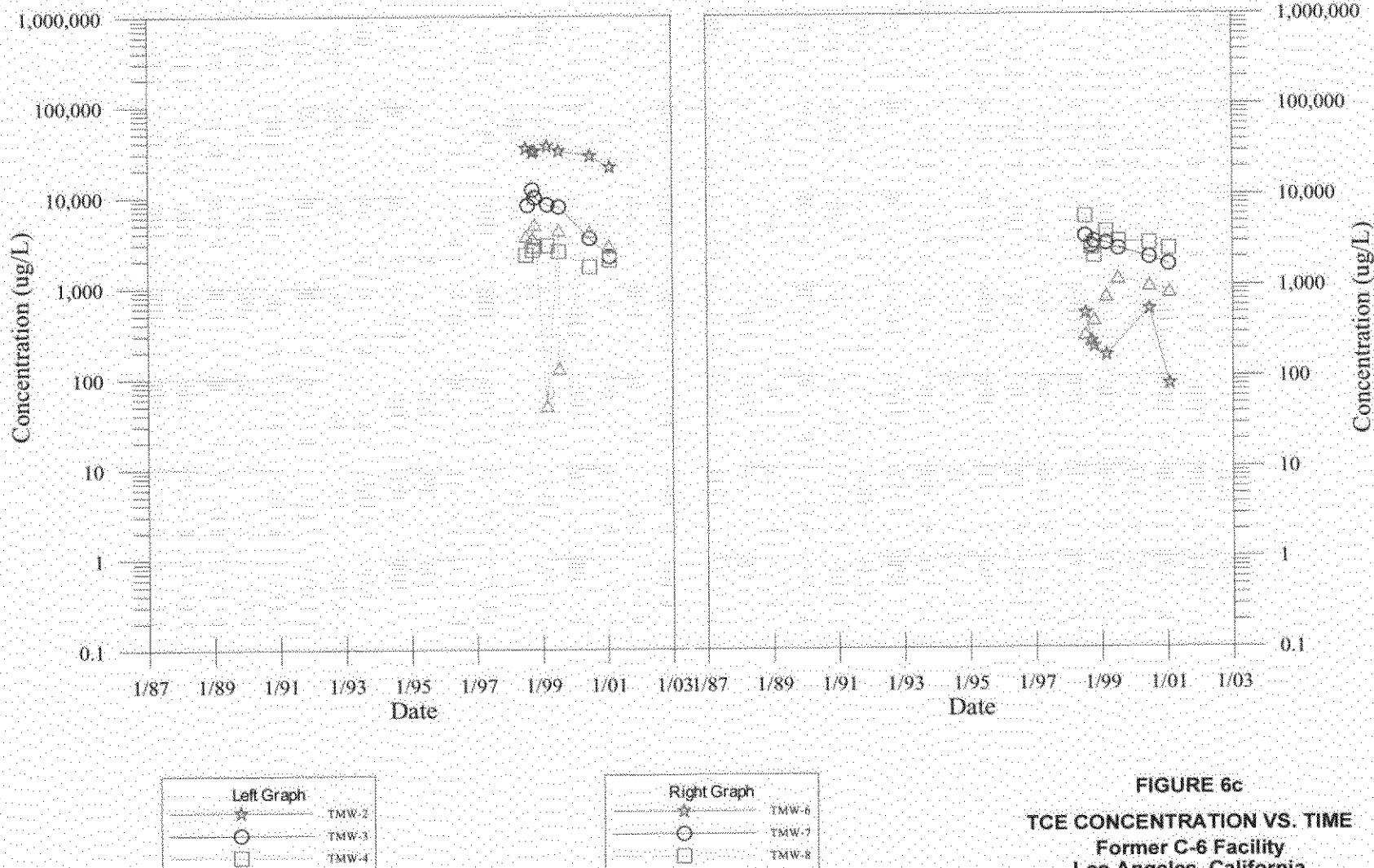


FIGURE 6b
TCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GE SYSTEM



HALEY &
ALDRICH

U = Not Detected

FIGURE 6c
TCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GE SYSTEM

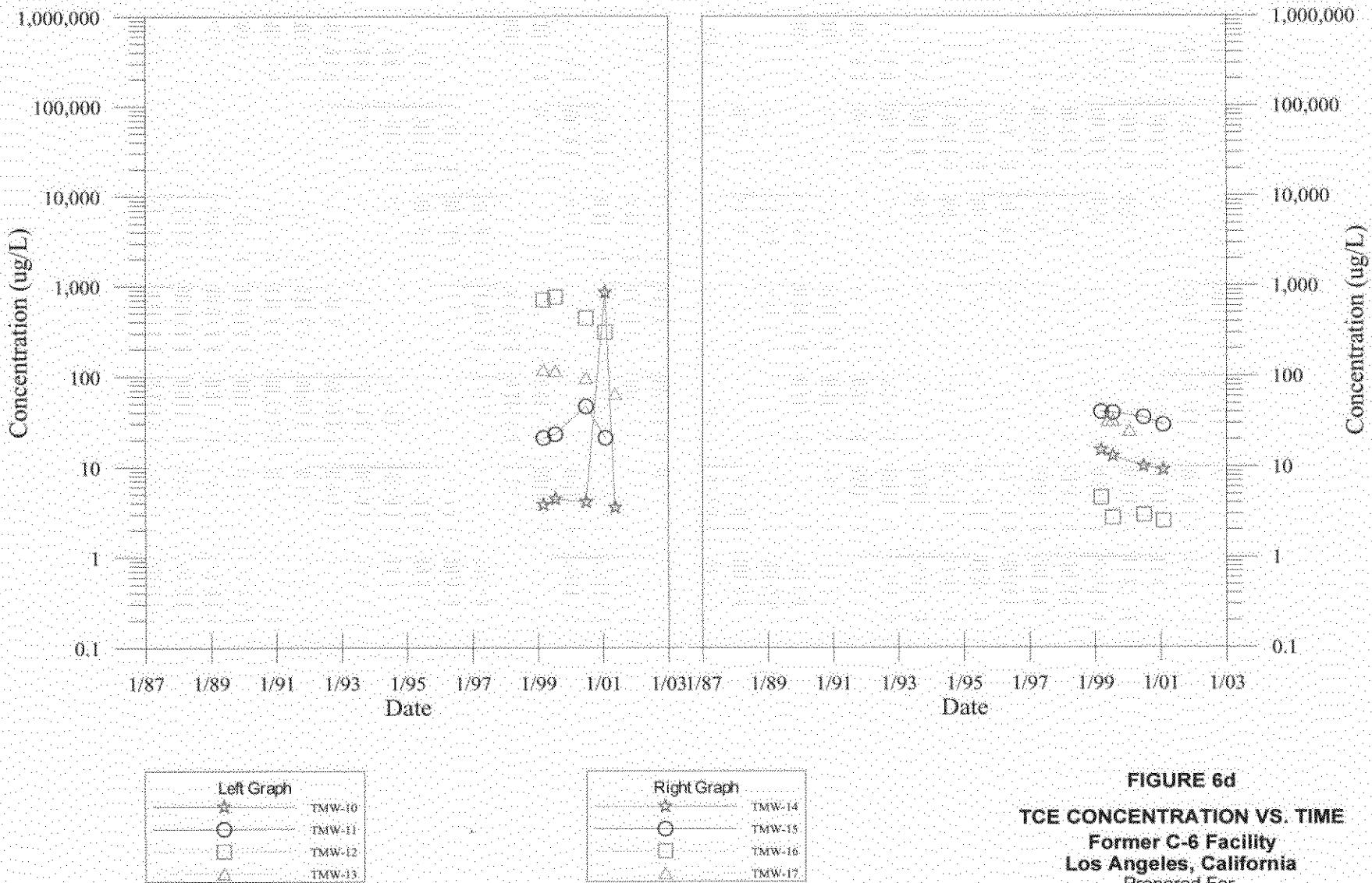
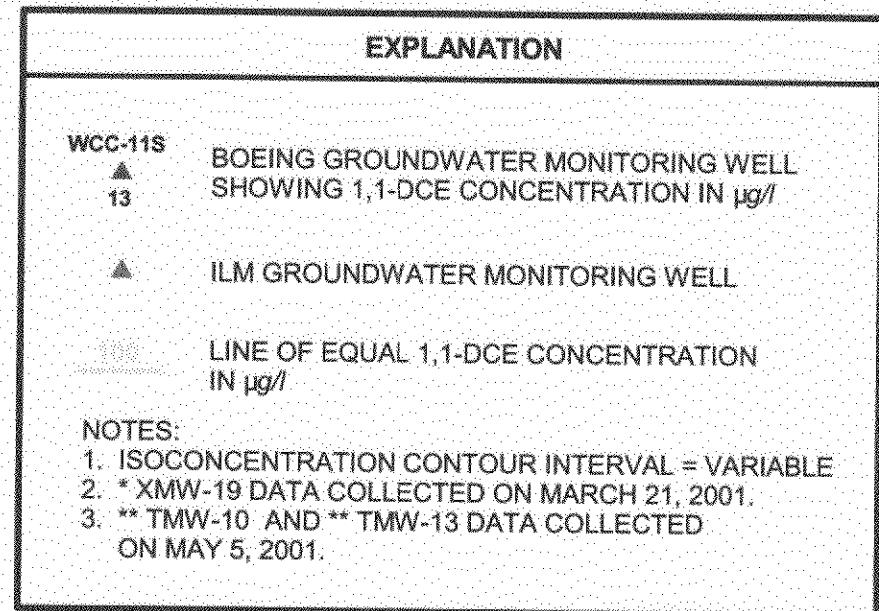
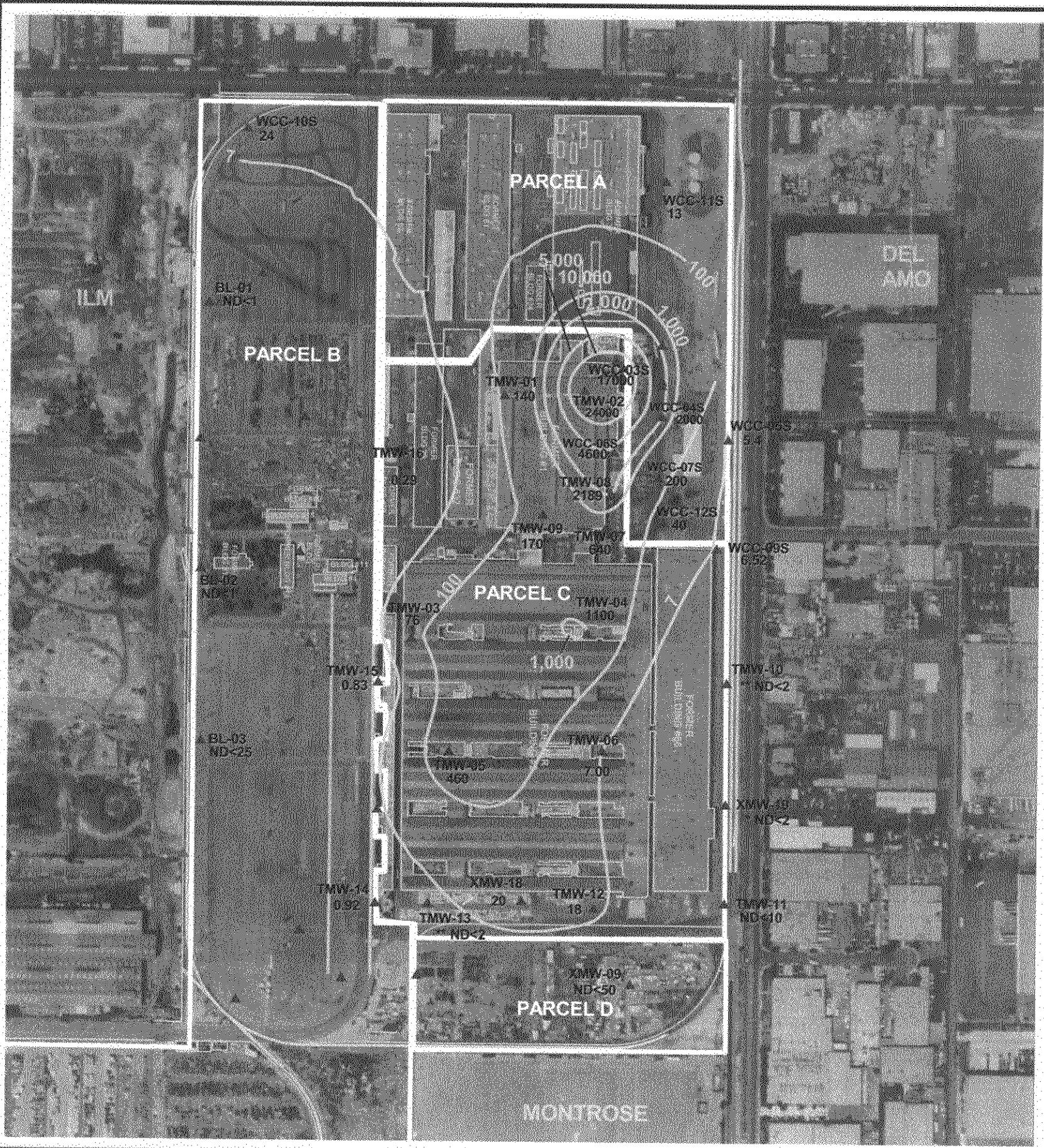


FIGURE 6d
TCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM



REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 200 400 Feet
APPROXIMATE HORIZONTAL SCALE

FIGURE 7

1,1-DCE DISTRIBUTION IN GROUNDWATER
ANNUAL EVENT
JANUARY/FEBRUARY 2001

FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA

HALLEY &
ALDRICH

ENGLAND
GEOSYSTEM
ENVIRONMENTAL ENGINEERING

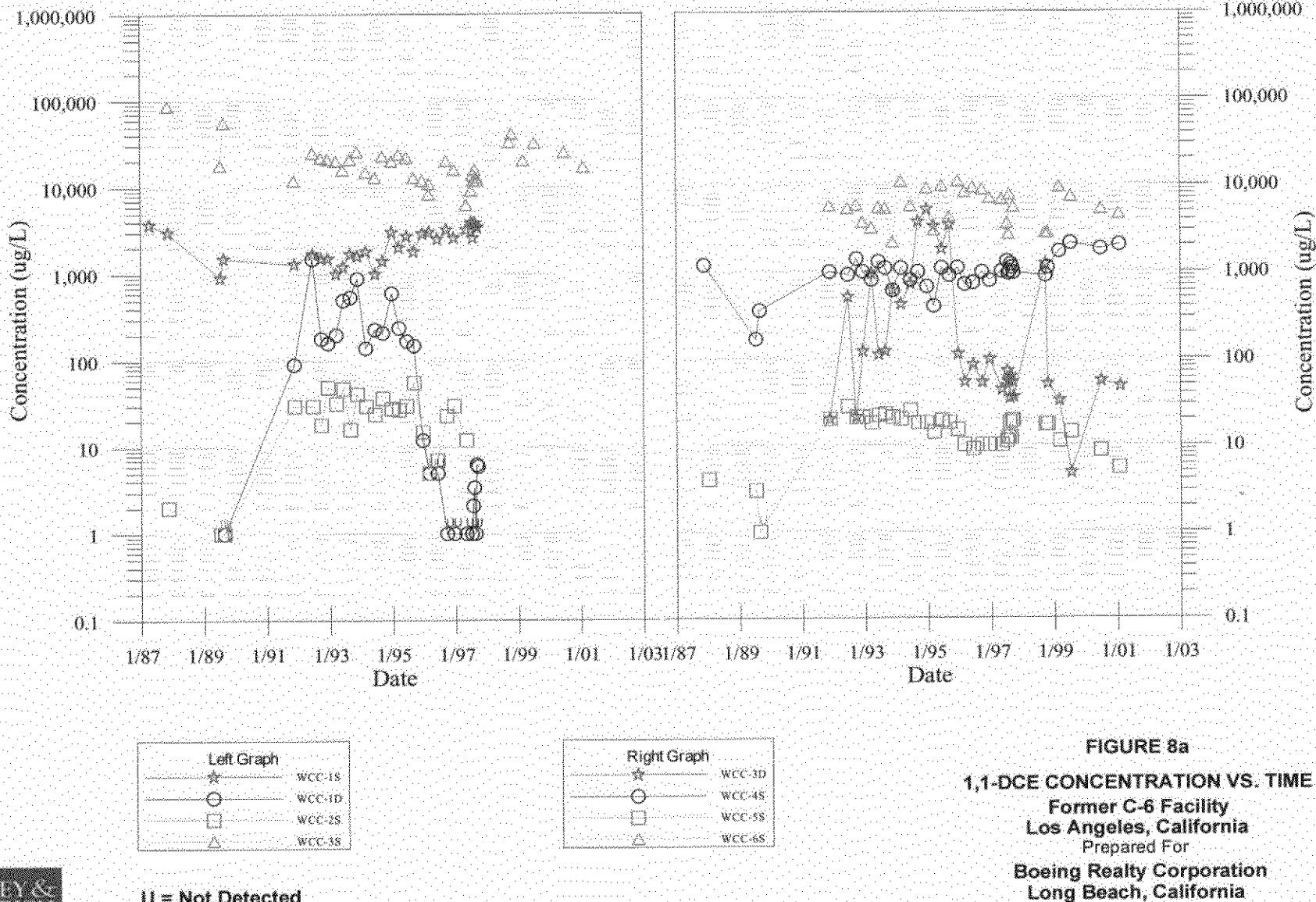


FIGURE 8a
1,1-DCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

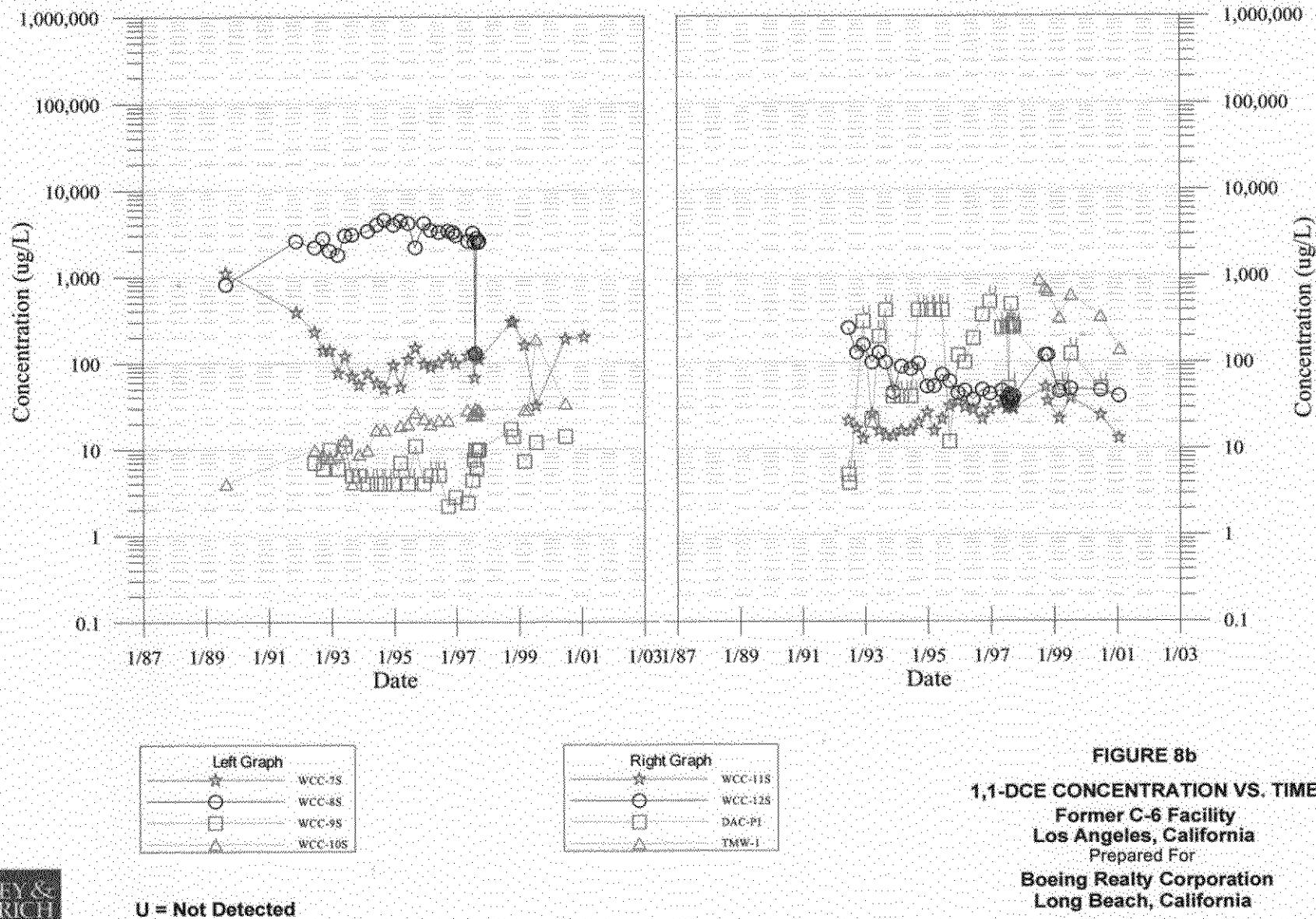


FIGURE 8b
1,1-DCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GE SYSTEM

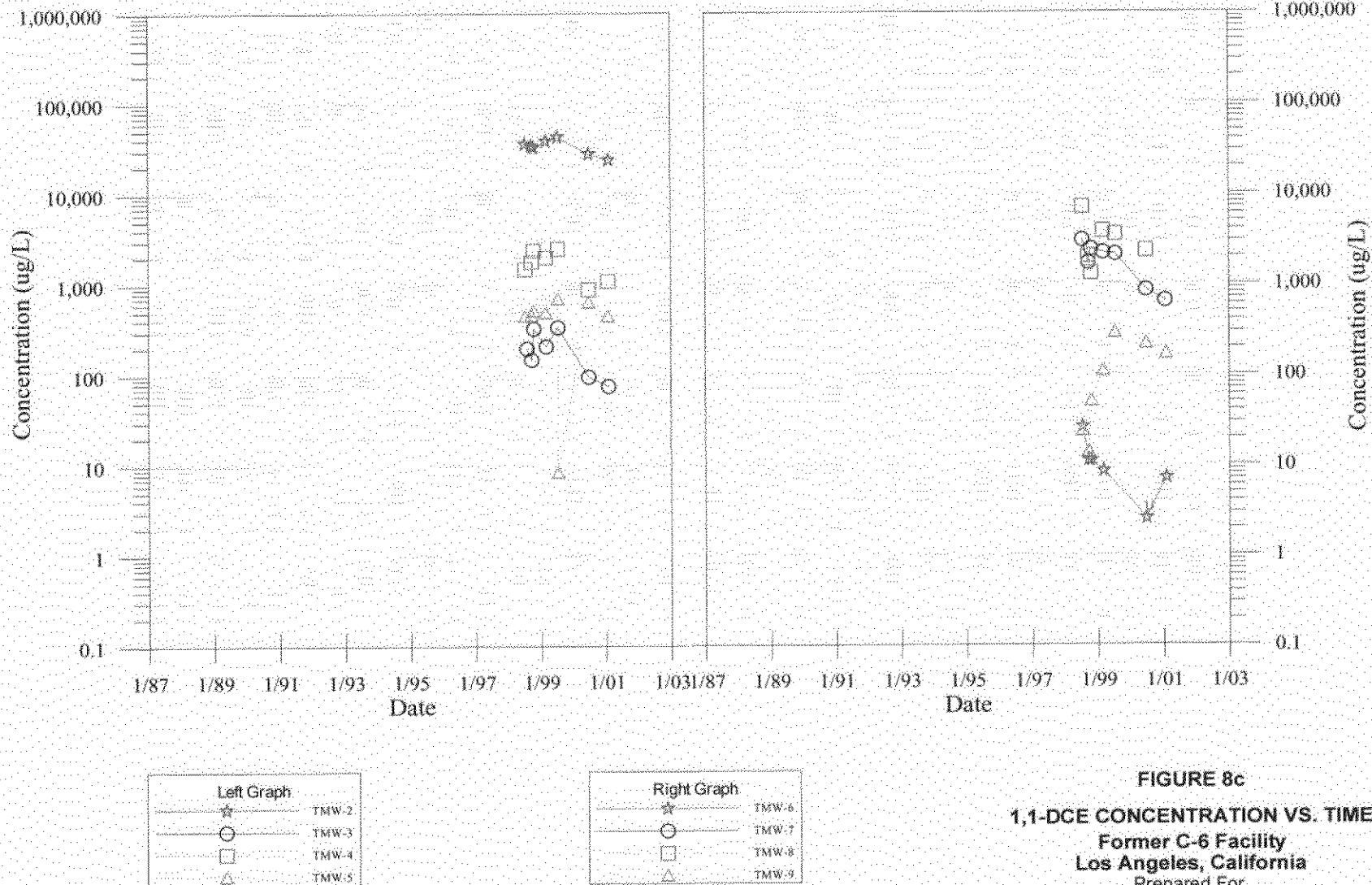


FIGURE 8c

1,1-DCE CONCENTRATION VS. TIME

Former C-6 Facility
Los Angeles, California
Prepared For

Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

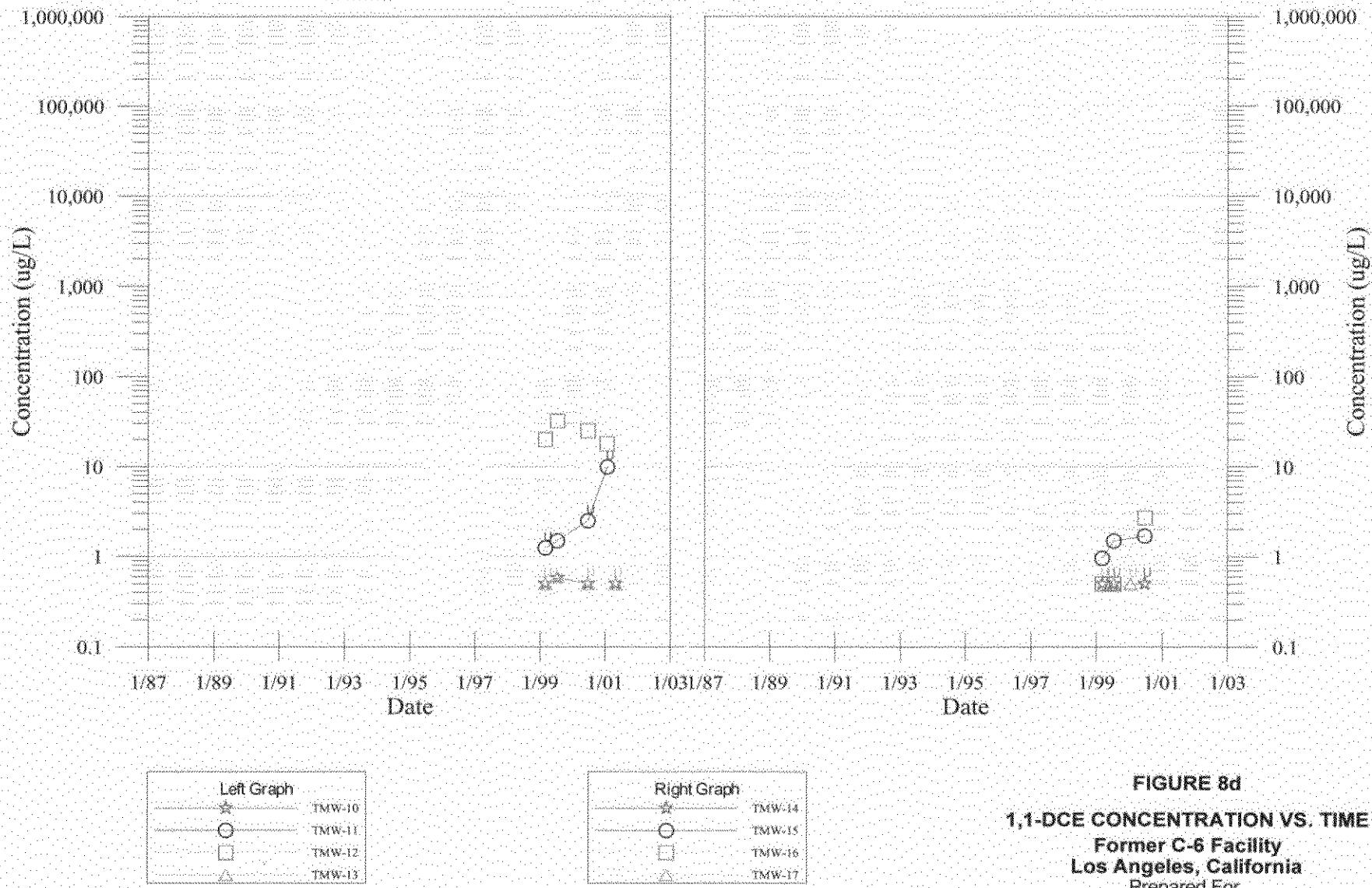
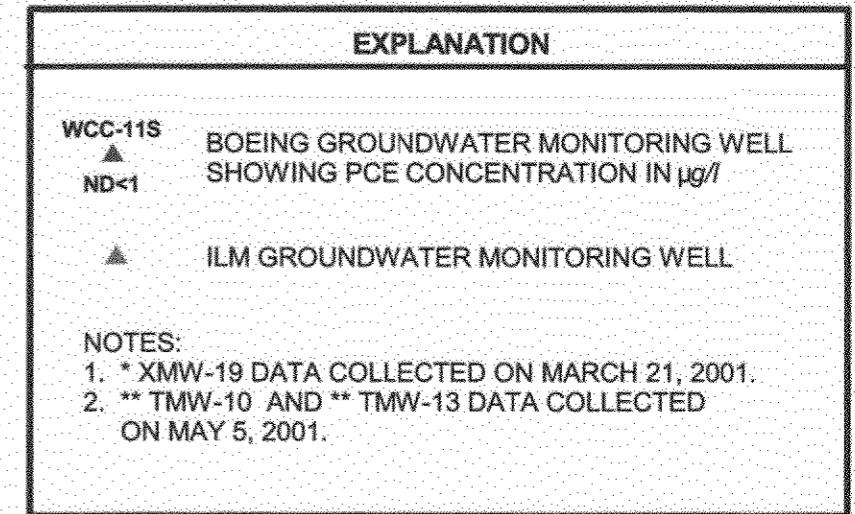
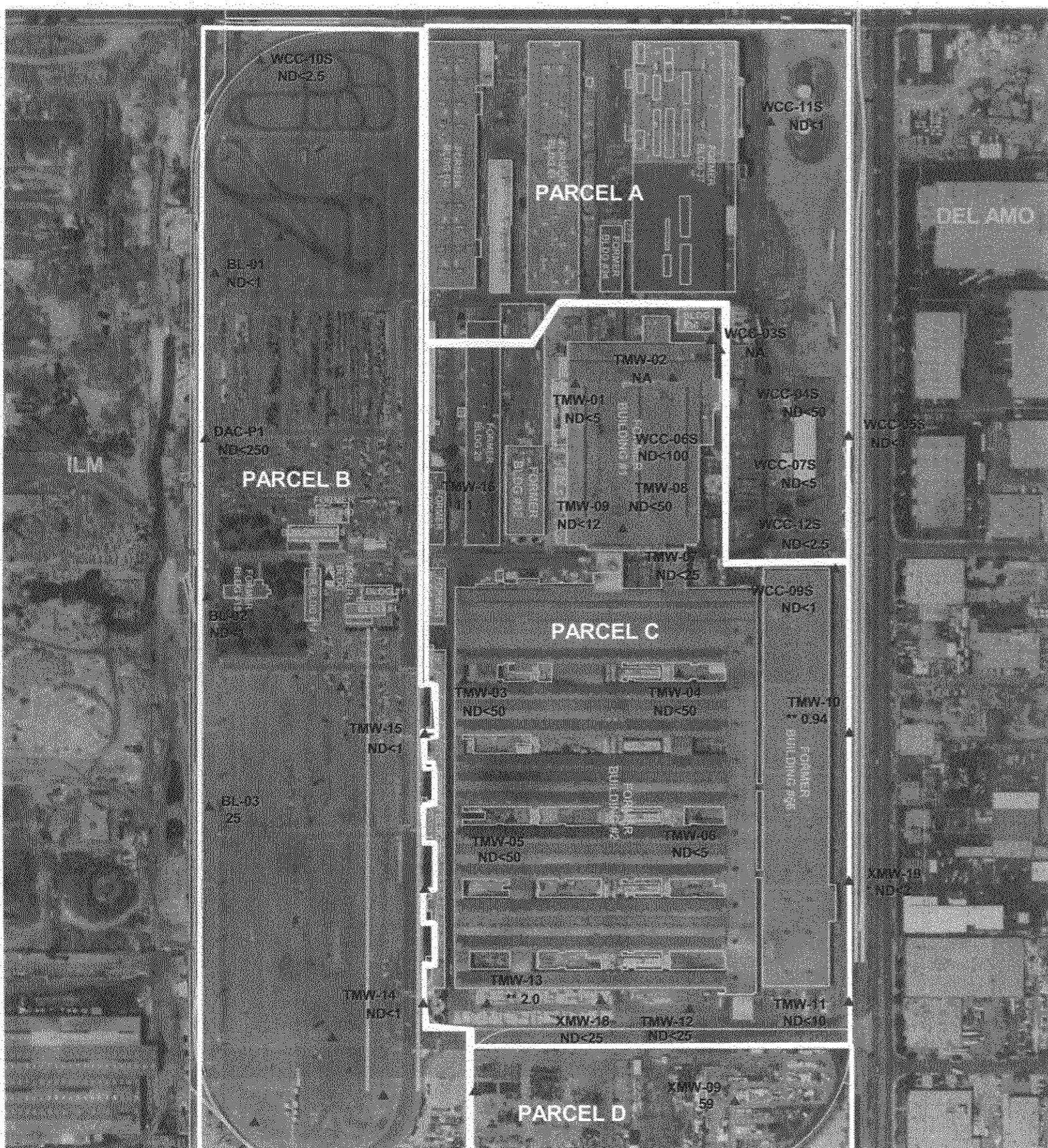


FIGURE 8d
1,1-DCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For:
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

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REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 200 400 Feet
APPROXIMATE HORIZONTAL SCALE

FIGURE 9.

PCE DISTRIBUTION IN GROUNDWATER
ANNUAL EVENT
JANUARY/FEBRUARY 2001

FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA

HALEY &
ALDRICH

ENGLAND
GEOSYSTEM
ENVIRONMENTAL ENGINEERING

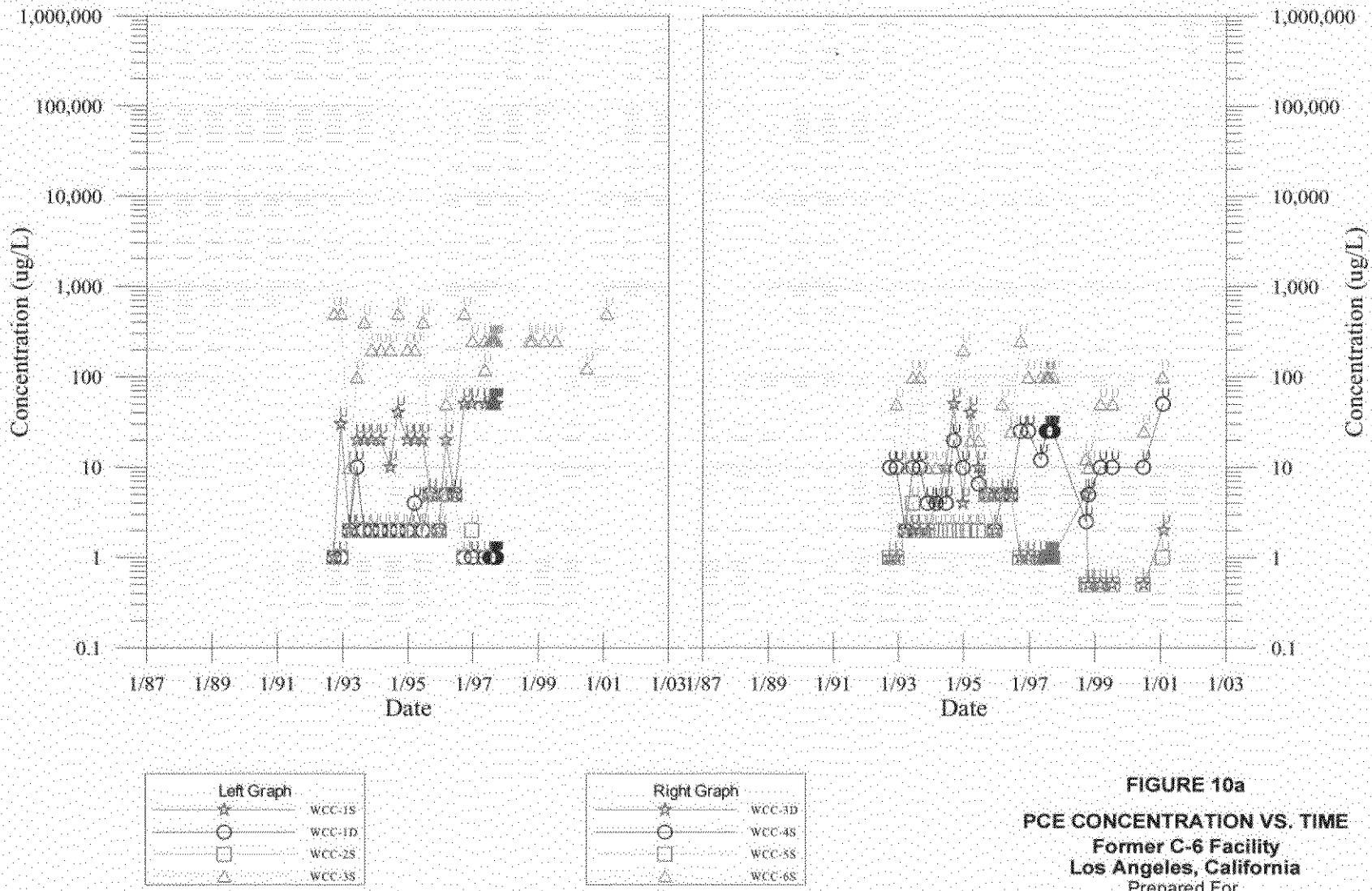


FIGURE 10a
PCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

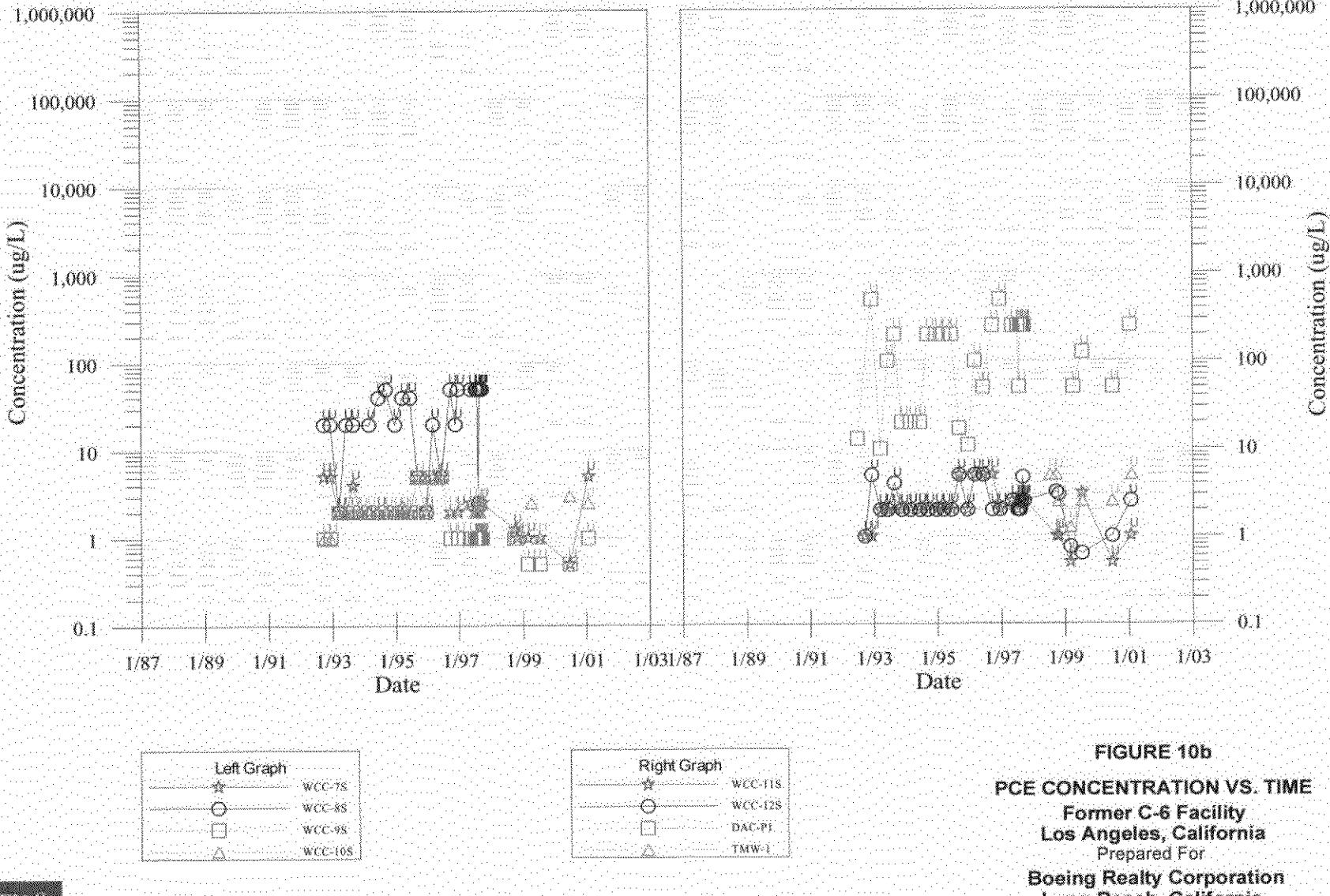


FIGURE 10b
PCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

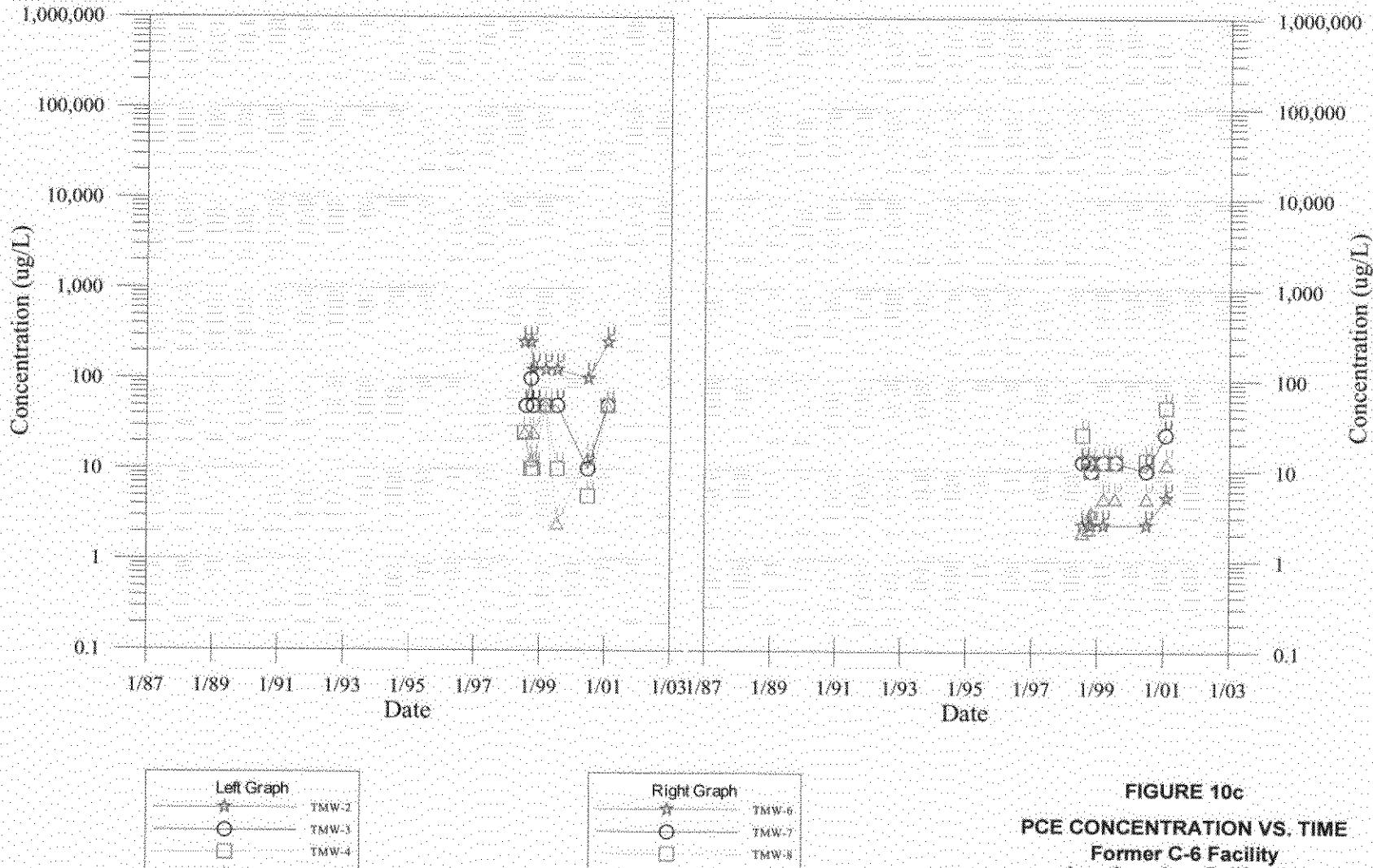


FIGURE 10c
PCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

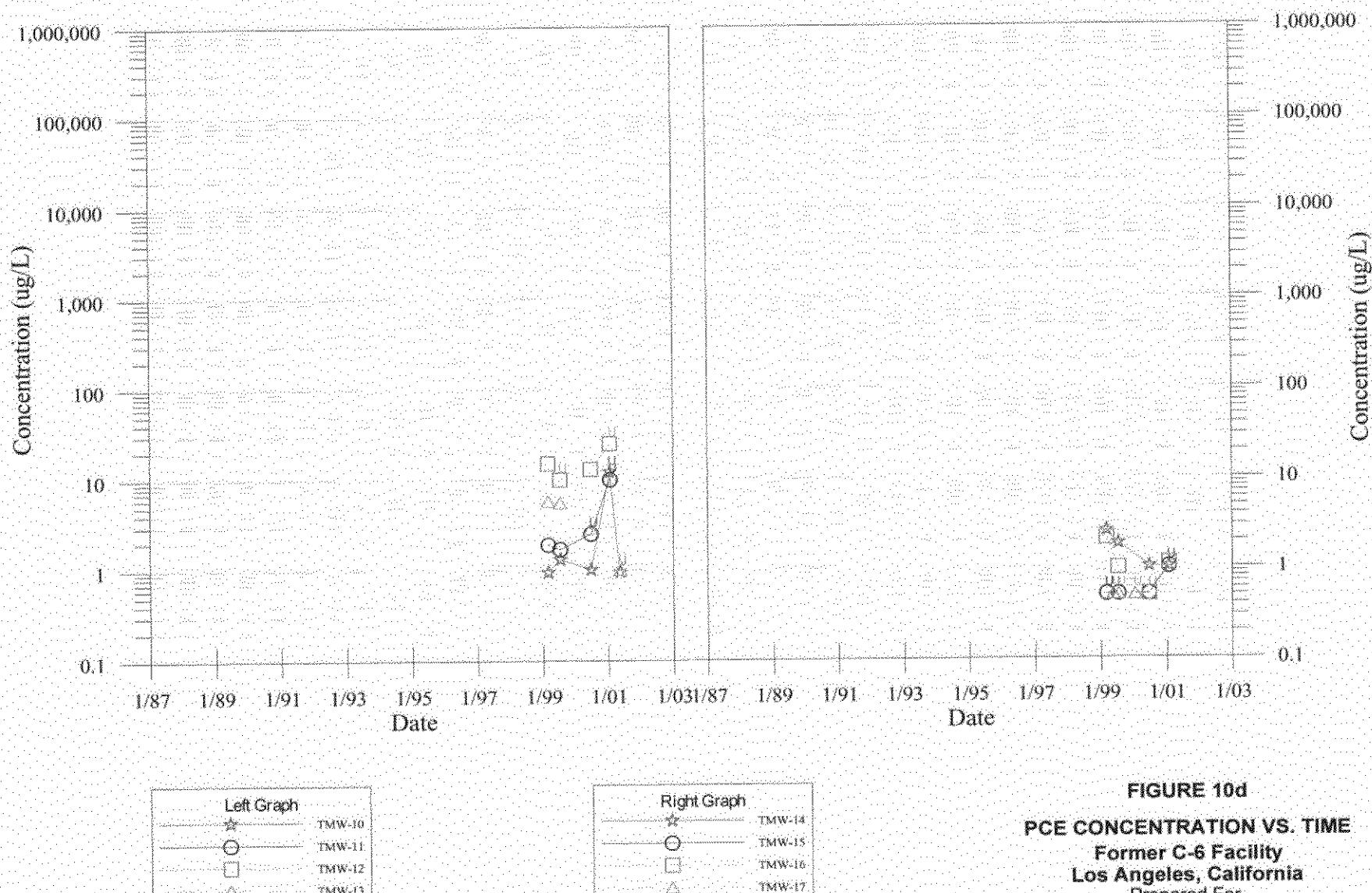
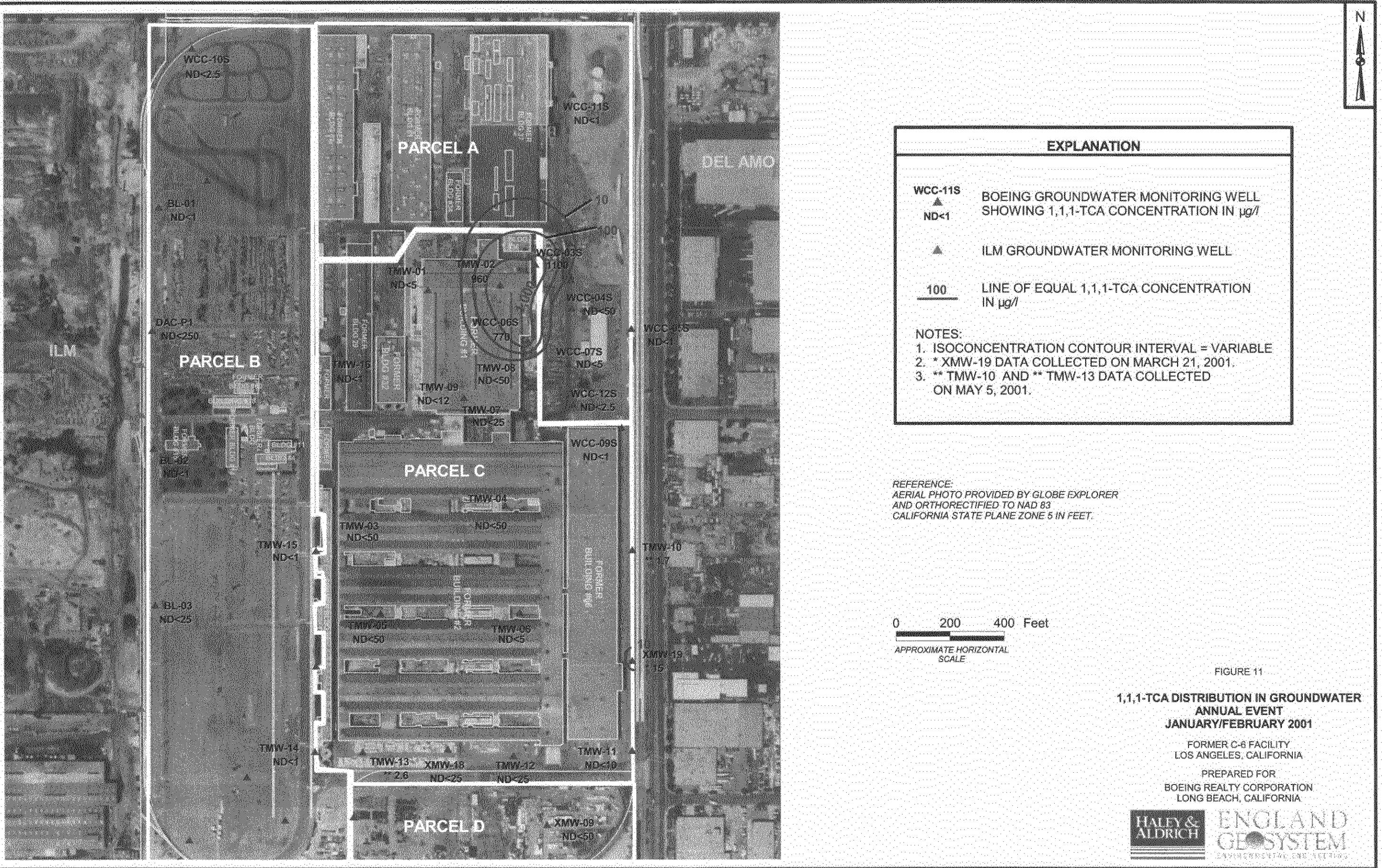


FIGURE 10d
PCE CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM



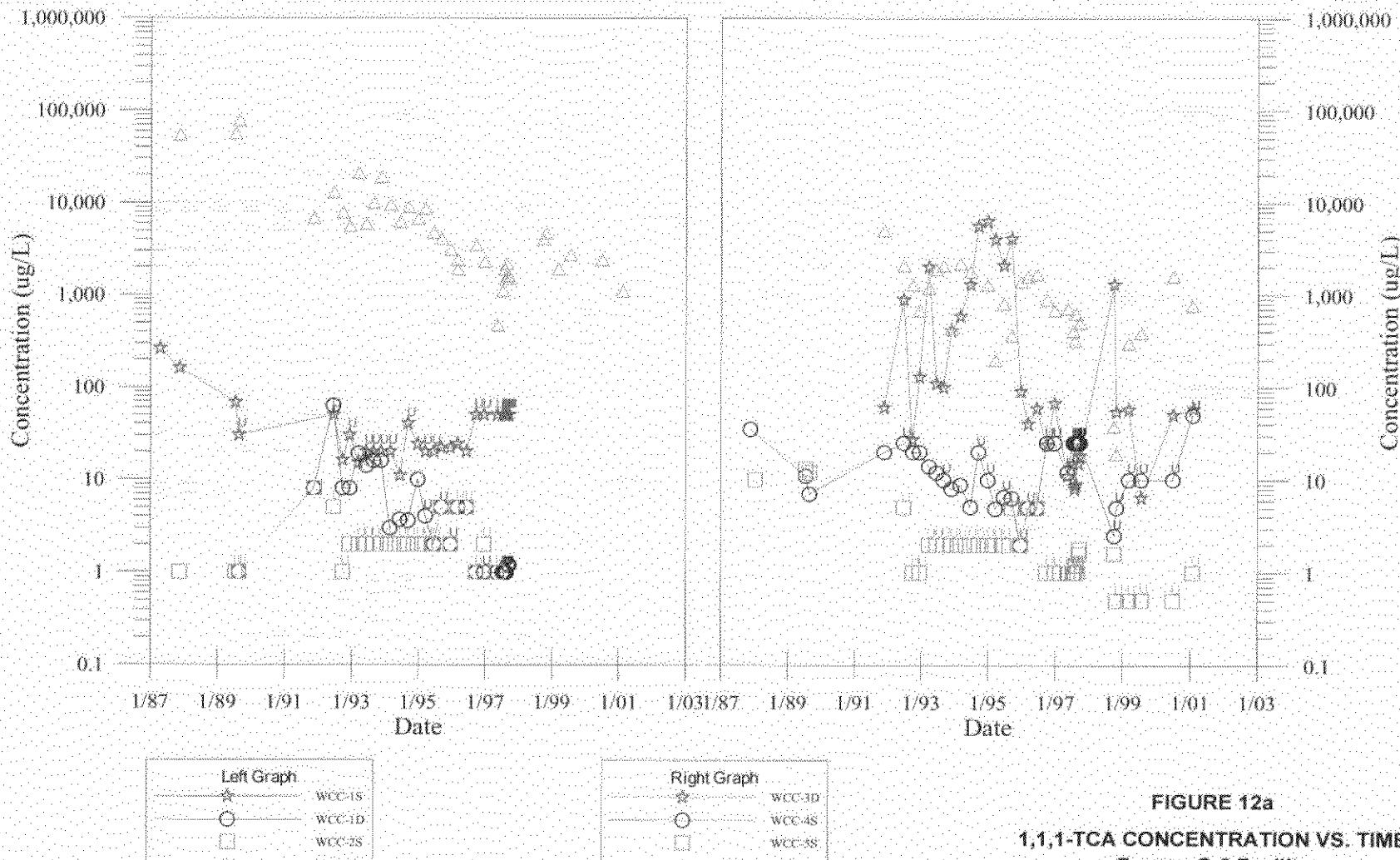


FIGURE 12a
1,1,1-TCA CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
 Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

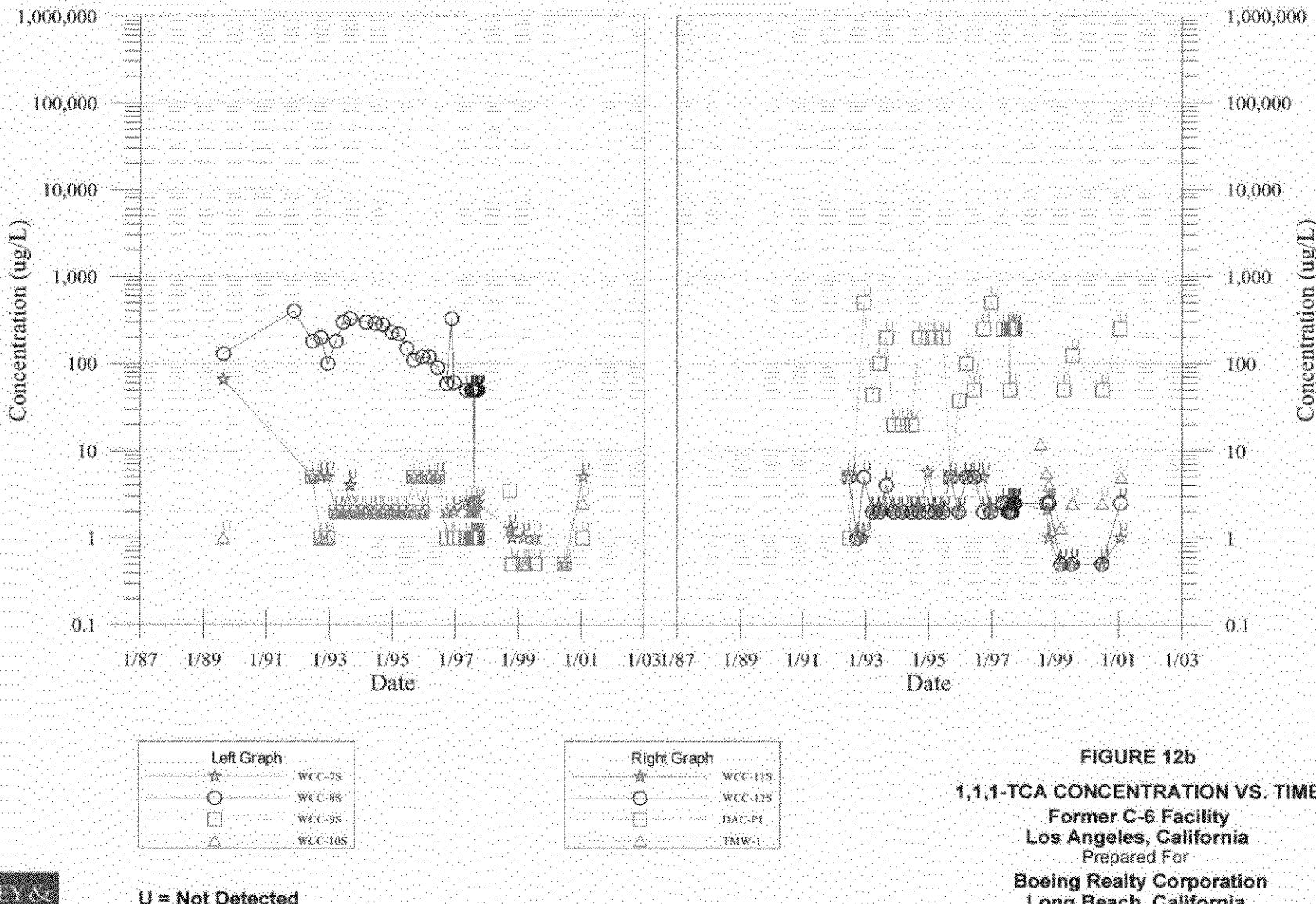


FIGURE 12B
1,1,1-TCA CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
 Prepared For
Boeing Realty Corporation
Long Beach, California

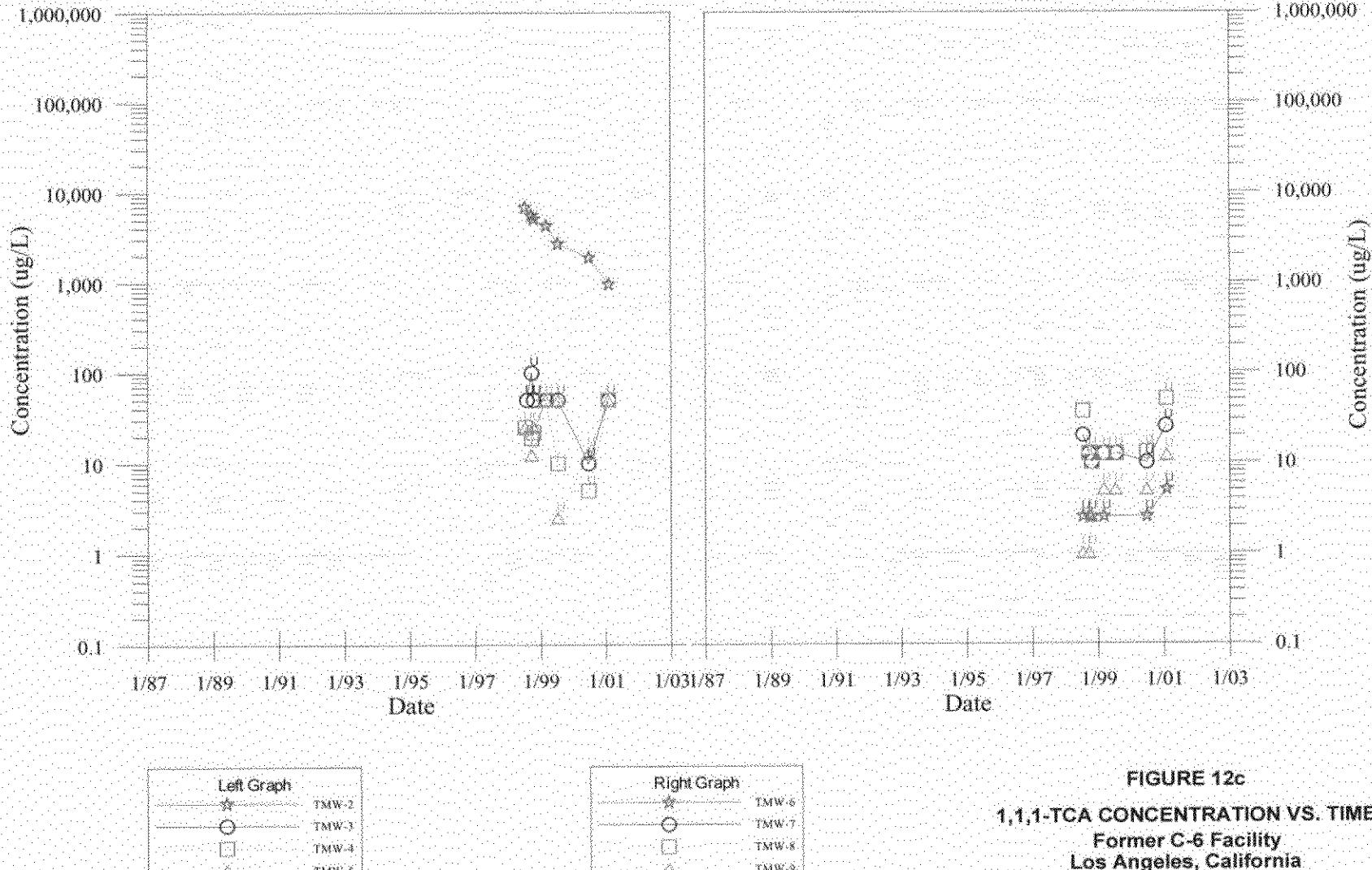


FIGURE 12c
1,1,1-TCA CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GE SYSTEM

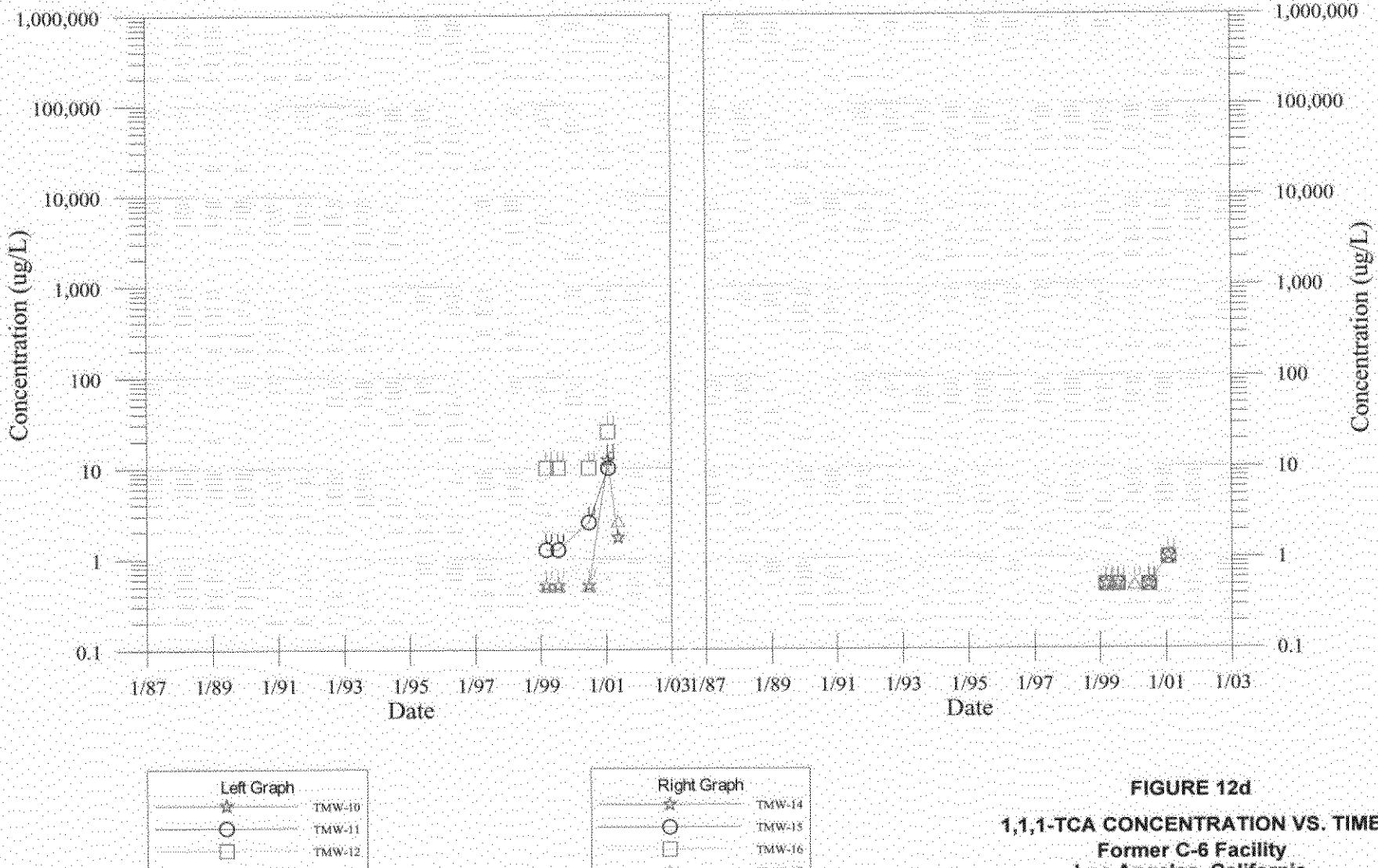
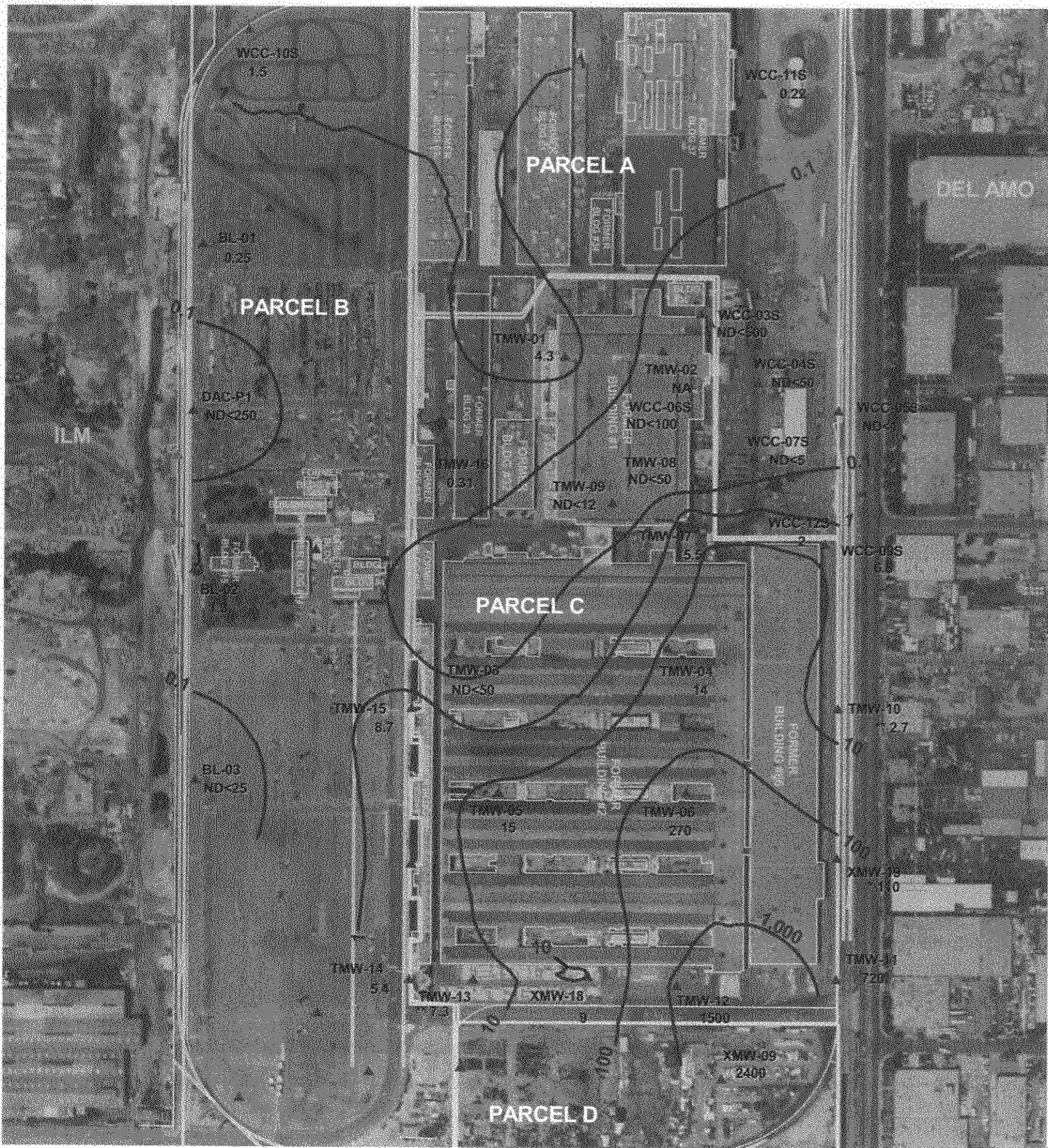


FIGURE 12d
1,1,1-TCA CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

**HALEY &
ALDRICH**



EXPLANATION

REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET

0 200 400 Feet

 APPROXIMATE HORIZONTAL
 SCALE

FIGURE 13

**CHLOROFORM DISTRIBUTION IN GROUNDWATER
ANNUAL EVENT
JANUARY/FEBRUARY 2001**

**FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA**

PREPARED FOR
DEING REALTY CORPORATION
LONG BEACH, CALIFORNIA



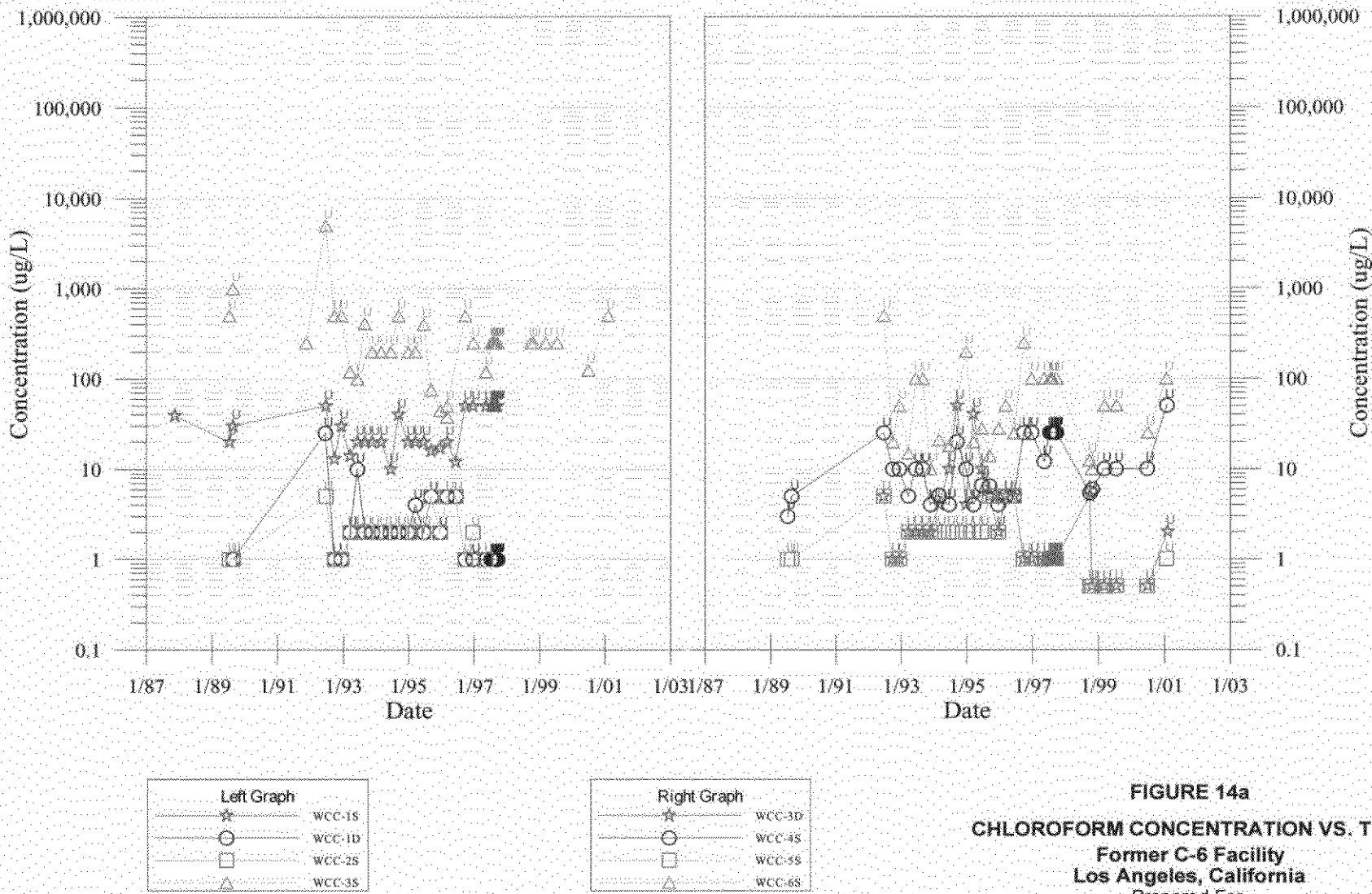


FIGURE 14a
CHLOROFORM CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

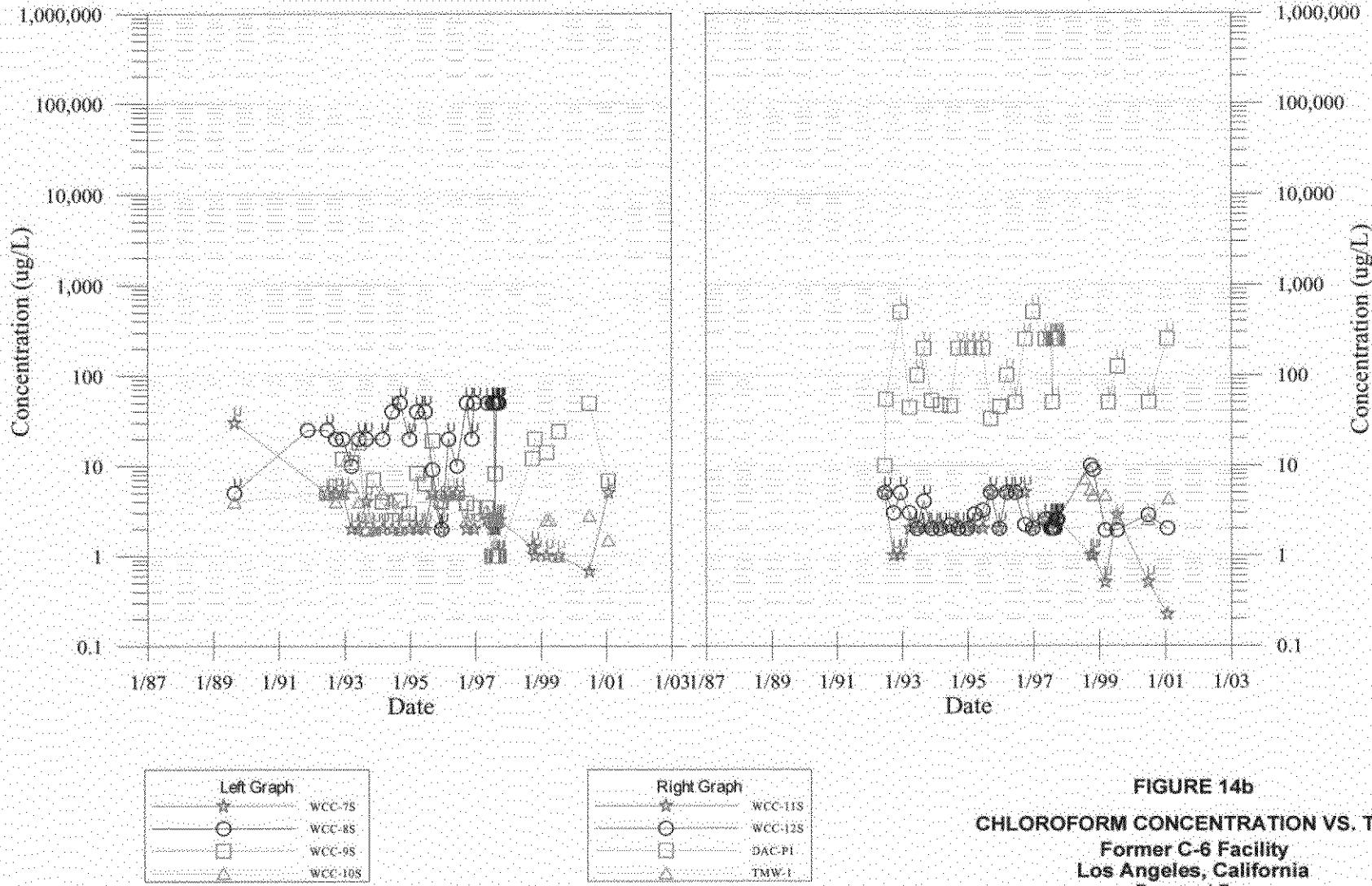


FIGURE 14B
CHLOROFORM CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

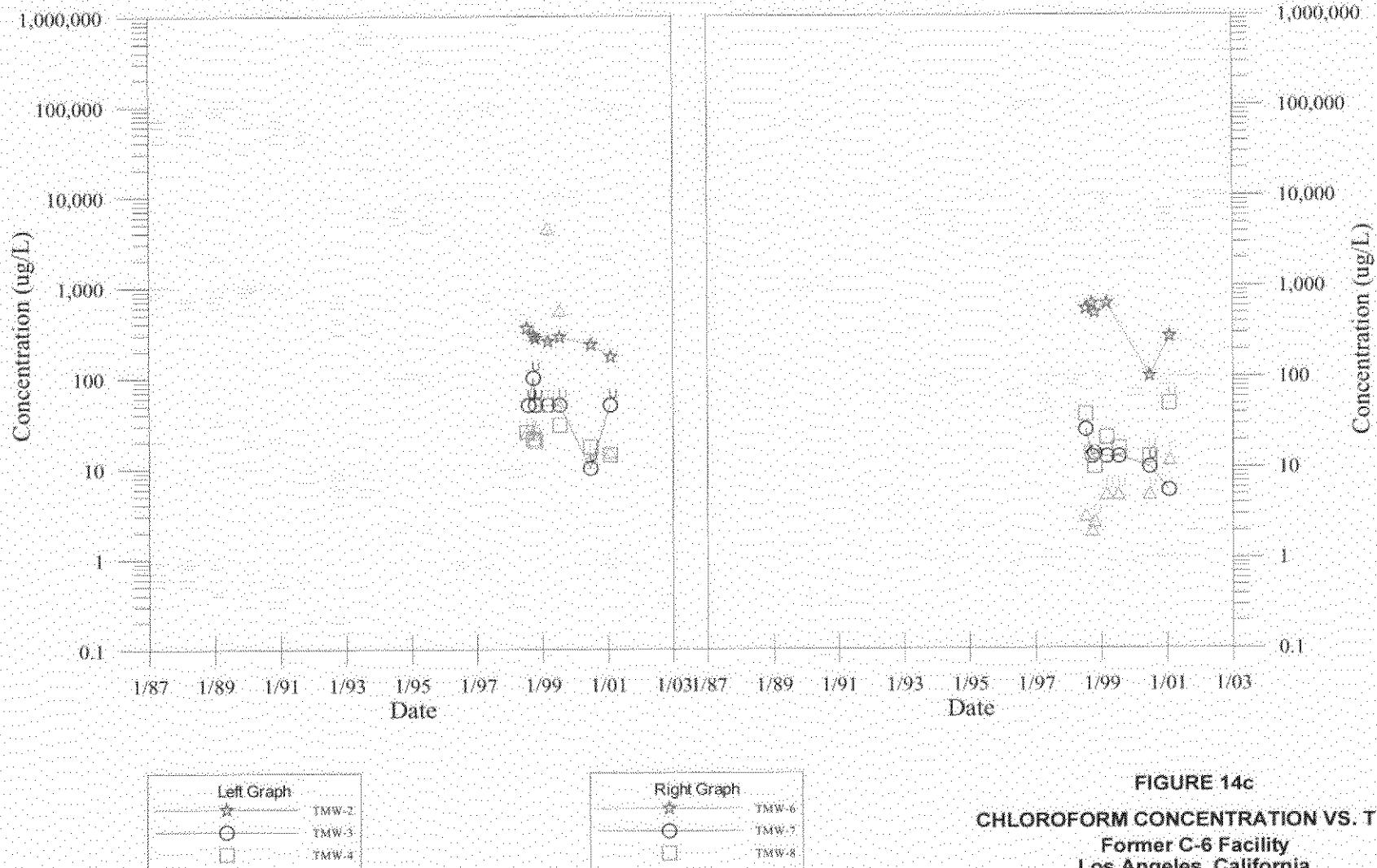


FIGURE 14c
CHLOROFORM CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

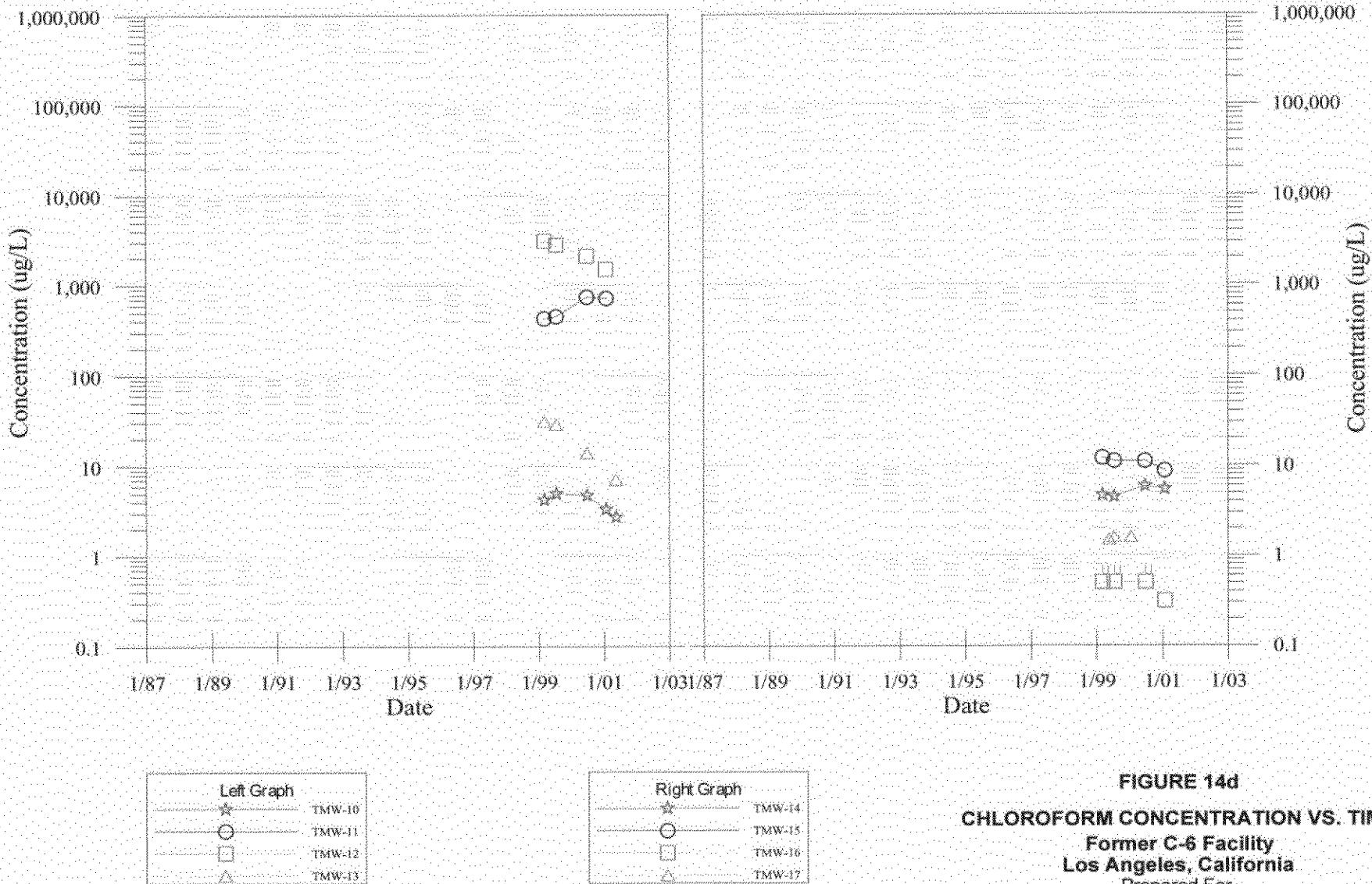
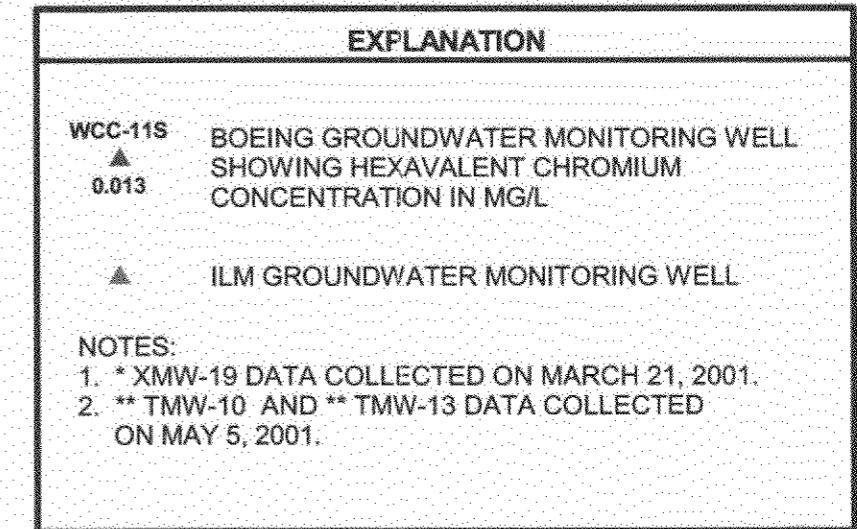
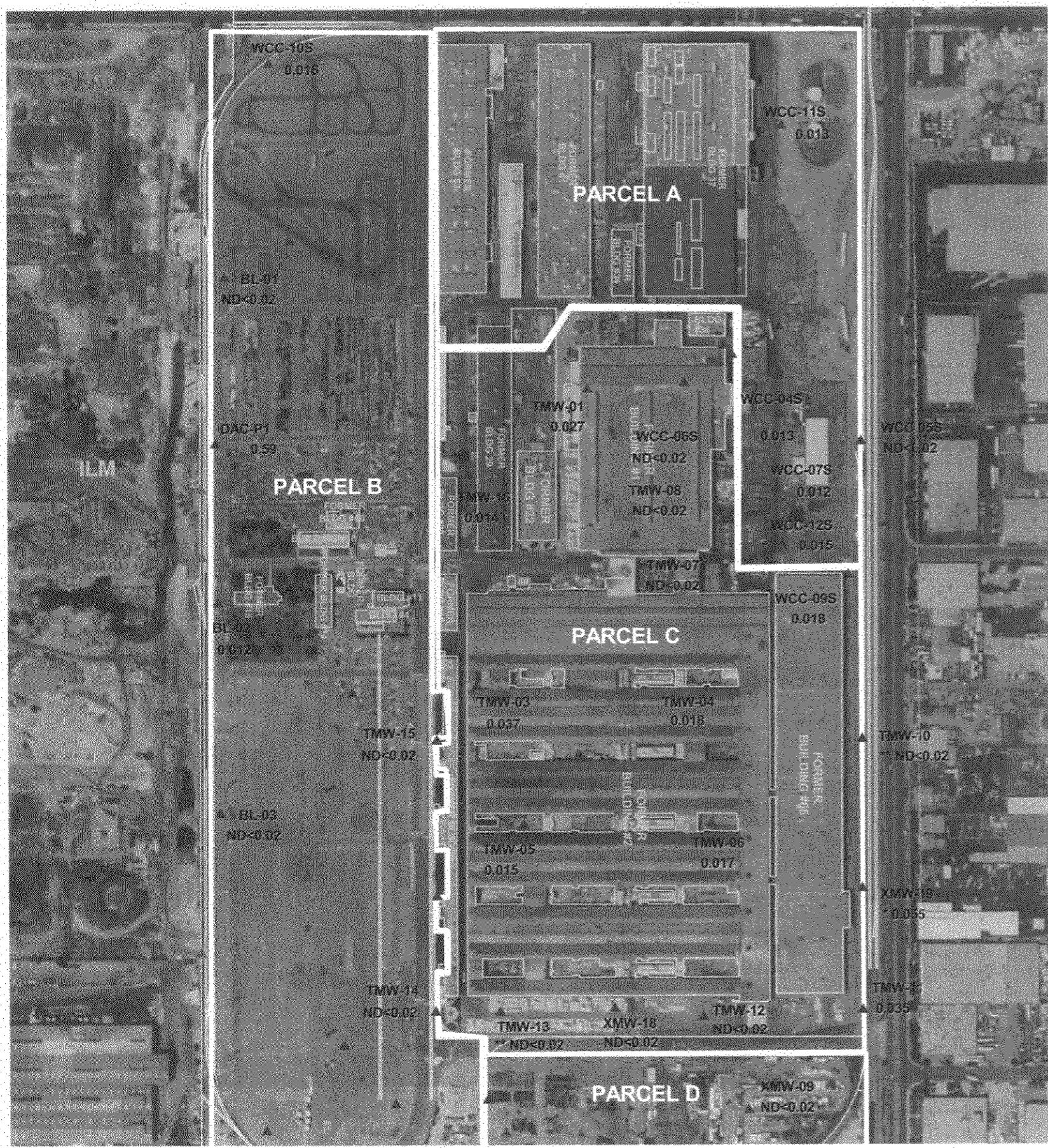


FIGURE 14d
CHLOROFORM CONCENTRATION VS. TIME
Former C-6 Facility
Los Angeles, California
 Prepared For
Boeing Realty Corporation
Long Beach, California

ENGLAND GEOSYSTEM

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REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 200 400 Feet
APPROXIMATE HORIZONTAL SCALE

FIGURE 15

HEXAVALENT CHROMIUM
DISTRIBUTION IN GROUNDWATER
ANNUAL EVENT
JANUARY/FEBRUARY 2001

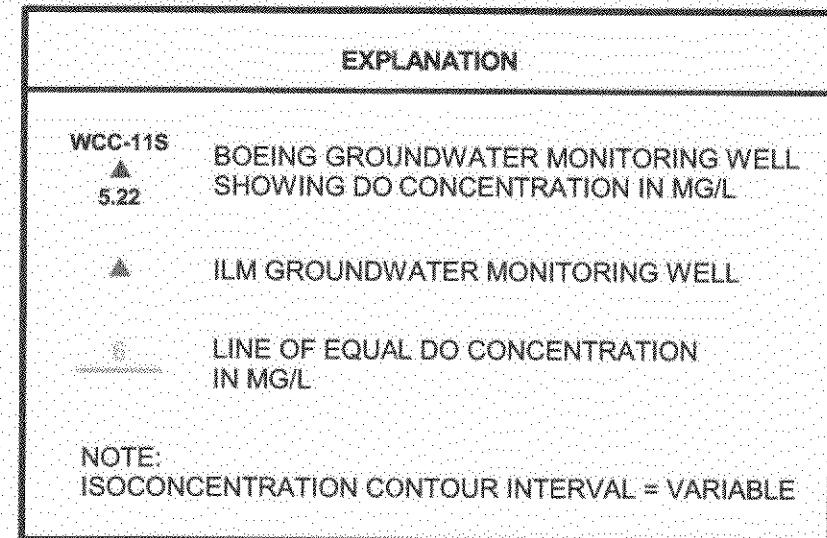
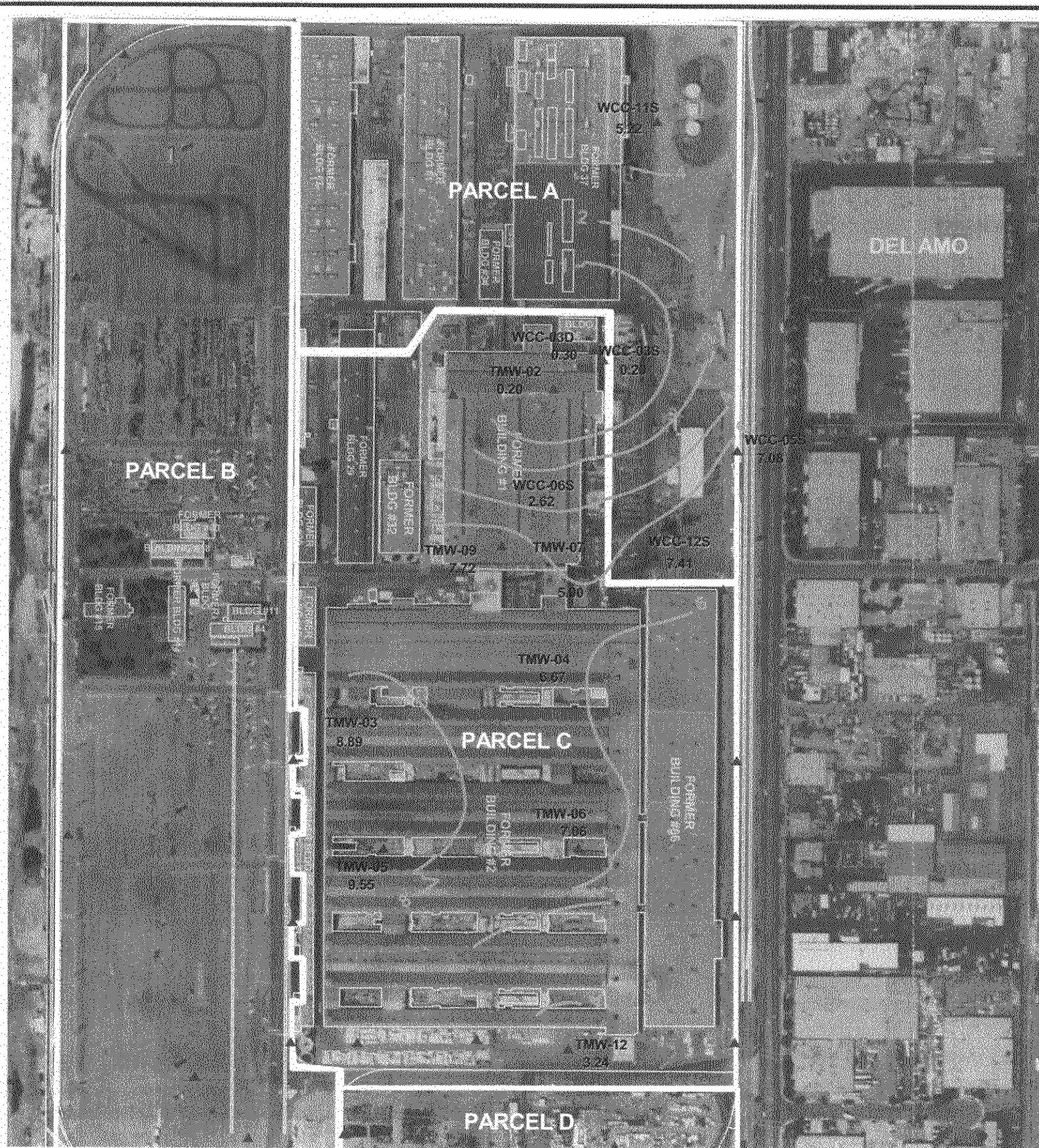
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA



ENGLAND
GEOSYSTEM
ENVIRONMENTAL CONSULTING

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REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 200 400 Feet
APPROXIMATE HORIZONTAL SCALE

FIGURE 16

DISSOLVED OXYGEN
IN SHALLOW GROUNDWATER
ANNUAL EVENT
JANUARY/FEBRUARY 2001

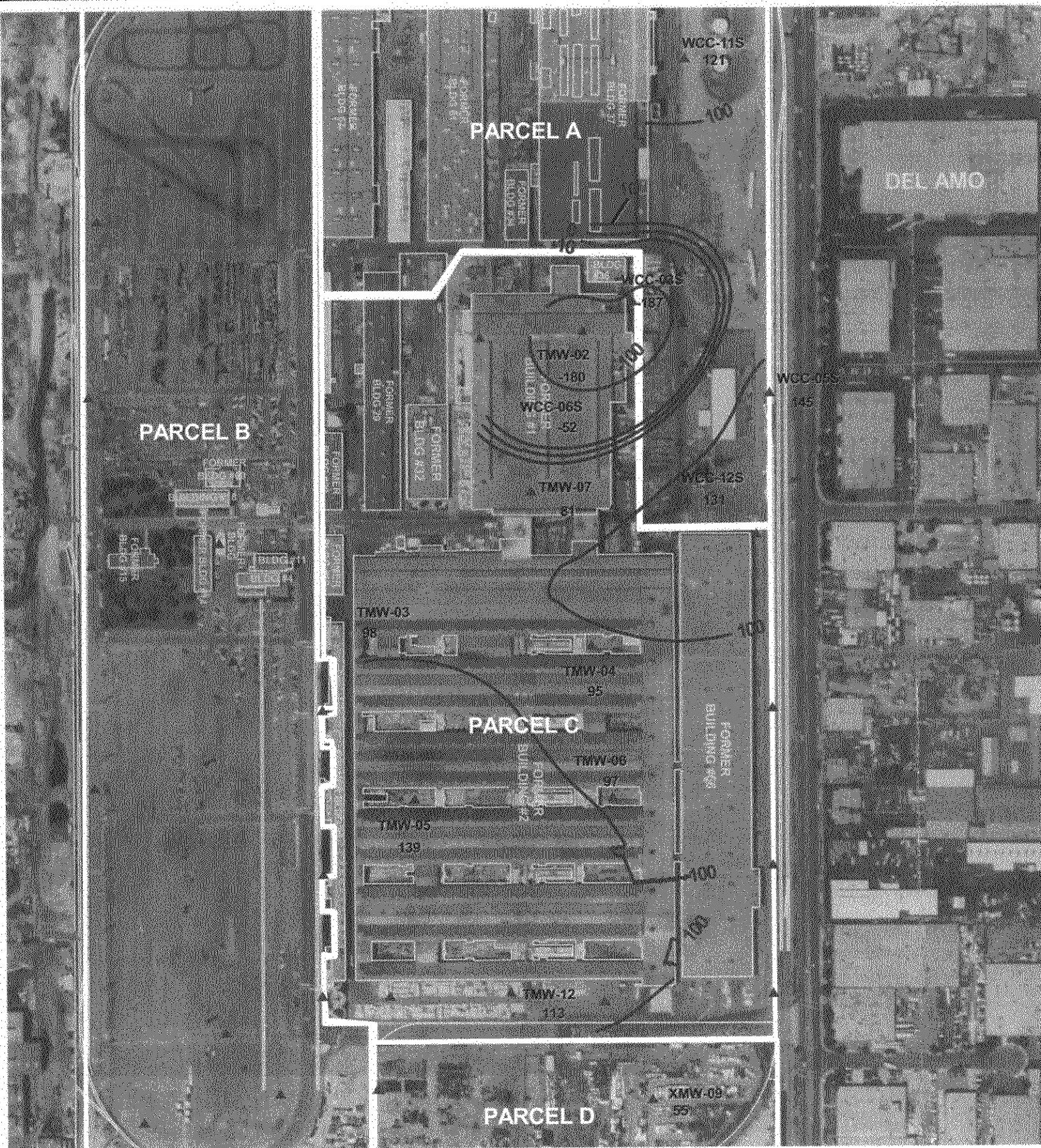
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA



ENGLAND
GE SYSTEM
ENVIRONMENTAL ENGINEERING

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EXPLANATION	
WCC-11S 121	BOEING GROUNDWATER MONITORING WELL SHOWING ORP IN mV
▲	ILM GROUNDWATER MONITORING WELL
100	LINE OF EQUAL ORP CONCENTRATION IN mV
NOTE: ISOCONCENTRATION CONTOUR INTERVAL = VARIABLE	

REFERENCE:
AERIAL PHOTO PROVIDED BY GLOBE EXPLORER
AND ORTHORECTIFIED TO NAD 83
CALIFORNIA STATE PLANE ZONE 5 IN FEET.

0 200 400 Feet
APPROXIMATE HORIZONTAL SCALE

FIGURE 17

OXIDATION REDUCTION POTENTIAL
IN SHALLOW GROUNDWATER
ANNUAL EVENT
JANUARY/FEBRUARY 2001

FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

PREPARED FOR
BOEING REALTY CORPORATION
LONG BEACH, CALIFORNIA

HALEY &
ALDRICH

ENGLAND
GEOSYSTEM
ENVIRONMENTAL ENGINEERING

Appendix A

Field Data

TEM Summary Letter Describing Field Work

Well Gauging Data Sheet

Well Sampling Field Data Sheets

Well Sampling Field Data Sheets—NA Sampling

February 13, 2001

Ms. Stephanie M. Sibbett
Boeing Realty Corporation
3760 Kilroy Airport Way, Suite 500
Long Beach, CA 90806

Via: **Federal Express**
(818) 586-5889 (fax)
(562) 593-8623 (phone)

Subject: Field Data Report for Annual Gauging and Sampling at the Boeing Realty Corporation, Former C-6 Facility, Torrance, California

Dear Ms. Sibbett:

This letter report is prepared to summarize and present the field data collected during groundwater sampling and gauging activities conducted from January 15, 2001 to February 3, 2001 at the Boeing Realty Corporation (BRC), Former C-6 Facility, Torrance, California (SITE). The groundwater gauging and sampling activities were performed in accordance with the following:

- Groundwater Monitoring Work Plan 2000 by Kennedy/Jenks Consultants, dated December 15, 2000.
- Statement of Work for Evaluating of Natural Attenuation by Exponent prepared for Ogden Environmental and Energy Services Co., dated January 10, 2001.

The following is a brief summary of our field observations:

- A total of 32 monitoring wells were gauged on January 15, 2001. Monitoring well TMW-13 could not be gauged during this event due to the well being buried by demolition debris.
- A total of 31 monitoring wells were purged and sampled between January 18, 2001 to February 3, 2001. Fifteen of the 31 monitoring wells were purged and sampled for natural attenuation parameters.
- Seven (7) monitoring wells (WCC-6S, TMW-7, WCC-12S, TMW-12, TMW-5, WCC-5S, and WCC-11S) were purged twice this event in order to collect groundwater samples to be analyzed for Hexavalent Chromium and Title 22 Metals that were inadvertently omitted during the first purge and sample.
- Monitoring well TMW-13 could not be sampled during this event due to the well being buried by demolition debris. Montrose well XMW-19 could not be purged and sampled due to a specially designed well cap covering the well. The Earth Tech observer present during the sampling event would not remove the cap.
- A total of 26 properly labeled 55-gallon drums were filled with decontamination and purged groundwater and were placed in front of the SITE trailers.

Copies of the well sampling field data sheets and a table summarizing gauging results and field observations are attached.

Please call us if you have any questions or comments at (714) 560-8200. TEM is pleased to be of continued service to Boeing Realty Corporation.

Very Truly Yours,

Tait Environmental Management, Inc.

Scott Ek
Project Geologist

Mehmet Pehlivan, R.G. C.H.
Senior Hydrogeologist

Attachments:

Table 1 – Well Gauging Data Sheet (3 pages)
Well Gauging Data Sheet (3 pages)
Well Sampling Field Data Sheets (34 pages)
Well Sampling Field Data Sheets – Field Copies (35 pages)
Groundwater Field Parameter Sheets, England GeoSystems (3 pages)

M:\TEM2\Clients\BOEING\Torrance-C6\Field Reports\January 2001 Sampling Event Field Report.doc

Well Gauging Data Sheet (WGDS)
Boeing Realty Corporation - Former C-6 Facility
Torrance, California

Project No.: EM-2303
 Personnel: Scott Ek

Equipment: Solinst Hydrocarbon/Water Interface Meter;
 Solinst Water Level Meter; Mini Rae PID

Well	Date	Time	PID (ppm)	Reference Elevation	Depth to Water (feet)	Groundwater Elevation	Total Depth (ft)	Comments
WCC-3S	1/15/01	9:38	>1,999	51.16	64.87	-13.71	88.82	4-inch diameter well (POMEKO Well Box)
WCC-3D	1/15/01	9:29	0	51.16	65.01	-13.85	139.69	4-inch diameter well (EMCO Well Box). Well box is destroyed.
WCC-4S	1/15/01	12:09	67.5	49.65	63.48	-13.83	89.67	4-inch diameter well (EMCO Well Box)
WCC-5S	1/15/01	16:13	2.7	48.84	62.47	-13.63	89.91	4-inch diameter well (EMCO Well Box)
WCC-6S	1/15/01	9:44	592	51.32	65.27	-13.95	88.50	4-inch diameter well (EMCO Well Box). Well box is destroyed.
WCC-7S	1/15/01	11:48	79.7	50.23	64.12	-13.89	90.68	4-inch diameter well (EMCO Well Box)
WCC-9S	1/15/01	10:36	8.9	46.93	60.90	-13.97	89.39	4-inch diameter well (EMCO Well Box)
WCC-10S	1/15/01	12:44	57.8	58.17	71.37	-13.20	96.70	4-inch diameter well with monument casing. Soil around monument casing has settled and sunk and is filled with water.
WCC-11S	1/15/01	15:07	7.4	51.37	64.32	-12.95	91.00	4-inch diameter well (EMCO Well Box)
WCC-12S	1/15/01	15:58	37.1	46.93	60.95	-14.02	90.29	4-inch diameter well (EMCO Well Box)
DAC-P1	1/15/01	12:56	1,700	---	65.64	---	90.33	4-inch diameter well (EMCO Well Box). TOC was modified
TMW-1	1/15/01	9:09	196.3	51.24	65.00	-13.76	79.79	2-inch diameter well (EMCO Well Box). Well box damaged.

Notes:

Depth to Water measurements taken from top of monitoring well casing.

ppm = Parts per Million

PID = Photoionization Detector

Table 1

Well Gauging Data Sheet (WGDS)
Boeing Realty Corporation - Former C-6 Facility
Torrance, California

Project No.: EM-2303
 Personnel: Scott Ek

Equipment: Solinst Hydrocarbon/Water Interface Meter,
 Solinst Water Level Meter; Mini Rae PID

Well	Date	Time	PID (ppm)	Reference Elevation	Depth to Water (feet)	Groundwater Elevation	Total Depth (feet)	Comments
TMW-2	1/15/01	9:20	>1,999	51.18	64.93	-13.75	79.74	2-inch diameter well (EMCO Well Box)
TMW-3	1/15/01	8:44	>1,999	51.07	65.41	-14.34	81.87	2-inch diameter well (EMCO Well Box)
TMW-4	1/15/01	10:16	85.7	50.35	64.87	-14.52	78.35	2-inch diameter well (EMCO Well Box). Well box damaged and no well cap.
TMW-5	1/15/01	8:16	>1,999	50.12	64.90	-14.78	79.90	2-inch diameter well (EMCO Well Box)
TMW-6	1/15/01	8:25	130.5	50.13	64.93	-14.80	79.48	2-inch diameter well (EMCO Well Box). Soil around borehole has settled/sunk inside well box.
TMW-7	1/15/01	10:02	816.1	51.12	65.29	-14.17	82.30	2-inch diameter well (EMCO Well Box)
TMW-8	1/15/01	9:54	198.7	51.06	65.12	-14.06	79.61	2-inch diameter well (EMCO Well Box)
TMW-9	1/15/01	10:09	29.7	51.21	65.41	-14.20	79.03	2-inch diameter well (EMCO Well Box). Well box damaged.
TMW-10	1/15/01	10:44	0	47.52	61.96	-14.44	78.35	2-inch diameter well (EMCO Well Box)
TMW-11	1/15/01	10:58	5.4	47.47	62.43	-14.96	78.31	2-inch diameter well (EMCO Well Box)
TMW-12	1/15/01	11:09	34.1	50.85	66.02	-15.17	81.58	2-inch diameter well (EMCO Well Box). A 500-gallon above ground fuel tank is sitting directly next to well.
TMW-13	---	---	---	50.91	---	---	---	Could not locate well. Well may be buried under concrete and construction debris.

Notes:
 Depth to Water measurements taken from top of monitoring well casing.

ppm = Parts per Million

PID = Photoionization Detector

Well Gauging Data Sheet (WGDS)
Boeing Realty Corporation - Former C-6 Facility
Torrance, California

Project No.: EM-2303
 Personnel: Scott Ek

Equipment: Solinst Hydrocarbon/Water Interface Meter;
 Solinst Water Level Meter; Mini Rae PID

Well	Date	Time	PID (ppm)	Reference Elevation	Depth to Water (feet)	Groundwater Elevation	Total Depth (feet)	Comments
TMW-14	1/15/01	8:06	3.4	58.21	73.21	-15.00	88.25	2-inch diameter well with monument casing.
TMW-15	1/15/01	8:36	6.8	55.26	69.52	-14.26	79.85	2-inch diameter well with monument casing. Missing monument casing cover.
TMW-16	1/15/01	13:50	0	50.91	64.05	-13.14	75.09	2-inch diameter well (EMCO Well Box). Steel Plate over the well. Well box damaged.
BL-1	1/15/01	12:50	0	58.34	71.41	-13.07	83.66	2-inch diameter well - PVC tube extending out of ground, no well box.
BL-2	1/15/01	13:12	1.4	58.15	71.91	-13.76	83.75	2-inch diameter well - PVC tube extending out of ground, no well box.
BL-3	1/15/01	13:06	467.3	59.33	73.70	-14.37	84.10	2-inch diameter well - PVC tube extending out of ground, no well box.
XMW-09	1/15/01	13:21	11.8	---	68.80	----	79.35	4-inch diameter well with monument casing.
XMW-18	1/15/01	7:41	7	---	66.43	----	141.59	4-inch diameter well (EMCO Well Box). Extraction type well cap on well. Took cap off and measured depth from north side of casing.
XMW-19	1/15/01	10:51	0	---	61.35	----	77.37	4-inch diameter well (EMCO Well Box). Extraction type well cap on well. Depth taken from 1-inch diameter port on north side.

Notes:
 Depth to Water measurements taken from top of monitoring well casing.
 ppm = Parts per Million
 PID = Photoionization Detector

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/18/01
Well #:	WCC-10S	Well Diameter (in):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	Disposable Bailer	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	71.37	Total Depth (ft):	96.70		
Height of Water Column (ft):	25.33	One (1) Casing Volume (gal):	16.46		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	8:07	Purge End Time:	8:23		
Total Volume Purged (gal):	51				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
8:14	1	17	2.42	73.86	58.6	0.90	6.51	1.61	
8:18	2	34	4.25	73.91	62.3	0.83	7.39	1.43	
8:23	3	51	3.40	73.99	62.2	0.78	7.47	0.70	

80% Recovery Depth (ft): 76.43

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Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

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Notes: Meter start: 76493 end: 76544

Boeing Realty Corporation, "Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/18/01
Well #:	BL-1	Well Diameter (in):	2	Measurement Point: TOC/north	
Purge Method:	2-inch Grundfos	Sample Method:	Disposable Bailer	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	71.41	Total Depth (ft):	83.66		
Height of Water Column (ft):	12.25	One (1) Casing Volume (gal):	1.99		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	9:32	Purge End Time:	9:41		
Total Volume Purged (gal):	7				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
9:36	1	3	0.75	NA	59.7	1.93	7.43	89.90	
9:38	2	2	1.00	72.34	65.5	2.14	7.38	43.20	
9:41	3	2	0.75	NA	67.1	2.03	7.40	44.40	

80% Recovery Depth (ft): 73.86 Depth to Water at Sampling (ft): 71.57
 Sample Collection Time: 9:44 Sample #: BL-1-W-011801
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

Notes:

Boeing Realty Corporation, Former C-6 Facility
 Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/18/01
Well #:	DAC-P1	Well Diameter (in):	4	Measurement Point: TOC/north	
Purge Method:	2-inch Grundfos	Sample Method:	Disposable Bailer	Equipment: Solinst, HF Turbidity Meter, Hydac	
Depth to Water (ft):	65.64			Total Depth (ft):	90.33
Height of Water Column (ft):	24.69			One (1) Casing Volume (gal):	16.01
Depth to LPH (ft):	ND			LPH Thickness (ft):	ND
Purge Start Time:	10:24			Purge End Time:	10:40
Total Volume Purged (gal):	48				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
10:29	1	16	3.20	78.30	66.2	1.83	7.90	6.84	
10:34	2	32	3.20	77.84	73.0	1.86	7.60	1.91	
10:40	3	48	2.60	72.00	70.6	1.83	7.80	1.09	

- 80% Recovery Depth (ft): 70.57 Depth to Water at Sampling (ft): 66.45
- Sample Collection Time: 10:50 Sample #: DAC-P1-W-011801
- Analysis: VOC's; Hexavalent Chromium; Title 22 Metals
- Notes:** Meter start: 76545 end: 76593

Boeing Realty Corp., "Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/18/01
Well #:	BL-3	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	Disposable Bailer	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	73.70	Total Depth (ft):	84.10		
Height of Water Column (ft):	10.40	One (1) Casing Volume (gal):	1.69		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	12:27	Purge End Time:	12:35		
Total Volume Purged (gal):	6				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
12:29	1	2	1.0	74.13	66.6	2.54	8.35	86.1	
12:30	2	4	2.0	74.68	68.2	2.66	7.54	38.2	
12:32	3	6	1.0	74.35	68.6	2.69	7.58	28.9	

80% Recovery Depth (ft):	75.78	Depth to Water at Sampling (ft):	73.84
Sample Collection Time:	12:46	Sample #:	BL-3-W-011801
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals		
Notes: Meter start: 76593 end: 76600			

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/19/01
Well #:	BL-2	Well Diameter (in):	2	Measurement Point: TOC/noth	
Purge Method:	2-inch Grundfos	Sample Method:	Disposable Bailer	Equipment: Solinst, HF Turbidity Meter, Hydac	
Depth to Water (ft):	71.91	Total Depth (ft):	83.75		
Height of Water Column (ft):	11.84	One (1) Casing Volume (gal):	1.93		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	10:20	Purge End Time:	10:26		
Total Volume Purged (gal):	9				

Time	No. Casting Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
10:21	1	2	2.0	NA	66.6	2.63	7.98	>1000	
10:24	3	6	2.0	NA	71.6	2.74	7.92	>1000	
10:26	4.5	9	1.5	NA	73.3	2.81	7.73	>1000	

80% Recovery Depth (ft): 74.27 Depth to Water at Sampling (ft): 72.15
 Sample Collection Time: 10:40 Sample #: BL-2-W-011901
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

Notes: Meter start: 76660 end: 76609

Boeing Realty Corpora "Former C-6 Facility
 Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/19/01
Well #:	TMW-10	Well Diametter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	Disposable Bailer	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	61.96			Total Depth (ft):	78.35
Height of Water Column (ft):	16.39			One (1) Casing Volume (gal):	2.67
Depth to LPH (ft):	ND			LPH Thickness (ft):	ND
Purge Start Time:	11:20			Purge End Time:	11:29
Total Volume Purged (gal):	9				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity (μ s/cm x 1000)	pH	Turbidity (NTU)	Observations
11:23	1	3	1.0	62.70	74.2	2.53	8.30	>1000	
11:26	2	6	1.0	62.98	75.5	2.71	8.29	97.8	
11:29	3	9	1.0	63.01	79.0	2.96	8.28	68.7	

80% Recovery Depth (ft):	65.23	Depth to Water at Sampling (ft):	62.13
Sample Collection Time:	11:40	Sample #:	TMW-10-W-011901
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals		
Notes: Meter start: 76609 end: 76618			

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/19/01
Well #:	WCC-9S	Well Diameter (in):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	Disposable Bailer	Equipment:	Solinst, HF Turbidity Meter, Hydac

Depth to Water (ft):	60.90	Total Depth (ft):	89.39
Height of Water Column (ft):	28.49	One (1) Casing Volume (gal):	18.52
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND
Purge Start Time:	12:25	Purge End Time:	12:47
Total Volume Purged (gal):	54		

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity (μ s/cm x 1000)	pH	Turbidity (NTU)	Observations
12:29	1	18	4.5	60.81	71.6	1.48	7.88	14.5	
12:41	2	36	1.6	NA	70.3	1.47	7.98	15.7	
12:47	3	54	3.0	61.23	72.8	1.37	7.97	3.78	

80% Recovery Depth (ft):	66.59	Depth to Water at Sampling (ft):	61.10
Sample Collection Time:	12:55	Sample #: WCC-9S-W-011901	
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals		
Notes: Meter start: 76609 end: 76663			

Boeing Realty Corp., A, Former C-6 Facility
 Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/24/01
Well #:	XMW-18	Well Diameter (in):	4	Measurement Point: TOC/north	
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	66.43	Total Depth (ft):	141.59		
Height of Water Column (ft):	75.16	One (1) Casing Volume (gal):	48.85		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	9:20	Purge End Time:	10:02		
Total Volume Purged (gal):	147				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
9:34	1	49	3.5	71.15	70.4	1.47	8.14	5.45	
9:48	2	98	3.5	71.17	70.8	1.67	7.76	2.32	
10:02	3	147	3.5	71.15	71.6	1.67	7.71	1.76	

80% Recovery Depth (ft): 81.46
 Sample Collection Time: 10:08
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

Notes: Meter start: 76921 end: 77061

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	ELM-2303	Date:	1/24/01
Well #:	WCC-4S	Well Diameter (in):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	63.48		Total Depth (ft):	89.67	
Height of Water Column (ft):	26.19		One (1) Casing Volume (gal):	17	
Depth to LPH (ft):	ND		LPH Thickness (ft):	ND	
Purge Start Time:	11:35		Purge End Time:	11:52	
Total Volume Purged (gal):	54				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
11:43	1	17	3.4	64.65	60.7	1.43	7.56	1.81	
11:47	2	34	3.4	64.73	63.1	1.47	7.67	1.53	
11:52	3	54	3.4	64.70	67.2	1.31	7.61	1.57	

80% Recovery Depth (ft): 68 71

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Analysis: VOC's : Hexavalent Chromium: Title 22 Metals

Depth to Water at Sampling (ft): 63.62

Sample #: WCC-4S-W-012401

Notes: Meter start: 77061 end: 77115

Boeing Realty Corporaⁿ, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/24/01
Well #:	WCC-7S	Well Diameter (in):	4	Measurement Point: TOC/north	
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	64.12	Total Depth (ft):	90.68		
Height of Water Column (ft):	26.56	One (1) Casing Volume (gal):	17.26		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	12:50	Purge End Time:	13:07		
Total Volume Purged (gal):	54				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
12:55	1	17	3.4	65.14	68.1	1.53	7.20	1.23	
13:00	2	34	3.4	65.17	63.9	2.60	7.10	1.15	
13:05	3	51	3.4	65.20	73.1	2.73	6.67	1.26	

80% Recovery Depth (ft): 69.43 Depth to Water at Sampling (ft): 64.34
 Sample Collection Time: 13:25 Sample #: WCC-7S-W-012401
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

Notes: Meter start: 77115 end: 77169; Duplicate collected (WCC-7S-D-012401) at 13:30.

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**Boeing Reality Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling**

Notes: Could not grow two white parsnips well due to the 2-inch diameter soil - limited space.

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE: <u>TNW-10</u>	Project #: <u>EN12303</u>	Date: <u>5/10/2001</u>								
Well #: <u>TNW-10</u>	Well Diameter (in): <u>2</u>	Measurement Point:								
Purge Method: <u>2" Grndfss</u>	Sample Method: <u>dedicated tubing / w pump</u>	Equipment: <u>Solinst, Harbco Vr-22</u>								
Depth to Water (ft): <u>61.55</u>	Total Depth (ft): <u>78.29</u>									
Height of Water Column (ft): <u>16.74</u>	One (1) Casing Volume (gal): <u>2.72</u>									
Depth to LPH (ft): <u>ND</u>	LPH Thickness (ft): <u>ND</u>									
Purge Start Time: <u>11:58</u>	Purge End Time: <u>12:09</u>									
Total Volume Purged (gal): <u>9.0</u>										
Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{mho}/\text{cm} \times 1000$) S/m	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
11:58	0	0	-	NA	23.6	0.18	6.33	4.7	37	silty - turbid > 990
12:01	1	3.0	1.0	NA	23.7	0.17	6.23	5.2	57	clear / " = 790
12:05	2	6.0	0.75	NA	23.5	0.17	6.20	4.2	60	clear = 340
12:09	3	9.0	0.75	NA	23.4	0.16	6.22	5.1	54	730
80% Recovery Depth (ft):	<u>64.89</u>	Depth to Water at Sampling (ft):	<u>61.70</u>							
Sample Collection Time:	<u>12:25</u>	Sample #:	<u>TNW-10_W_05/10/2001</u>							
Analysis:	VOC's; Hexavalent Chromium; Total 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1									
Notes:										

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/24/01
Well #:	TMW-11	Well Diameter (in):	2	Measurement Point:	TOC/black mark
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	62.43	Total Depth (ft):	78.31		
Height of Water Column (ft):	15.88	One (1) Casing Volume (gal):	2.58		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	14:34	Purge End Time:	14:44		
Total Volume Purged (gal):	11.5				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
14:36	1	3	1.0	NA	67.0	2.87	6.43	>1000	
14:39	2	6	1.0	NA	67.8	2.64	6.64	63.30	
14:42	3	9	1.0	NA	69.8	2.81	6.54	38.70	

80% Recovery Depth (ft): 65 60

Scenarios Collection Time: 11:50

Analysis: VOC's: Hexavalent Chromium: Title 22 Metals

Depth to Water at Samnling (ft): 62 47

Sample #: TMW-11-W-012401

Notes: Meter start: 77169 end: 77180.5

Boeing Realty Corporation, Former C-6 Facility
 Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/25/01
Well #:	TMW-8	Well Diameter (in):	2	Measurement Point: TOC/north	
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Sollinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	65.12	Total Depth (ft):	79.61		
Height of Water Column (ft):	14.49	One (1) Casing Volume (gal):	2.36		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	7:43	Purge End Time:	7:52		
Total Volume Purged (gal):	11.5				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
7:46	1	3	1.0	65.96	62.5	3.31	7.56	11.6	
7:49	2	6	1.0	65.97	61.4	1.90	7.51	44.8	
7:52	3	9	1.0	66.00	60.1	1.77	7.47	28.2	

80% Recovery Depth (ft):	68.01	Depth to Water at Sampling (ft):	65.35
Sample Collection Time:	8:00	Sample #:	TMW-8-W-012501
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals		
Notes:	Meter start: 77181 end: 77192.5		

Boeing Realty Corporation, Former C-6 Facility

Well Sampling Field Data Sheet

Boeing Realty Corpora .4, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/25/01
Well #:	TMW-15	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	69.52	Total Depth (ft):	79.85		
Height of Water Column (ft):	10.33	One (1) Casing Volume (gal):	1.68		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	10:10	Purge End Time:	10:20		
Total Volume Purged (gal):	6				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity (μ s/cm x 1000)	pH	Turbidity (NTU)	Observations
10:14	1	2	1.0	NA	67.1	1.41	7.05	163	
10:16	2	4	1.0	NA	68.4	1.43	7.66	151	
10:20	3	6	1.0	NA	67.0	1.43	7.75	137	

80% Recovery Depth (ft): 71.58
 Sample Collection Time: 10:30
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

Notes: Meter start: 77202 end: 77208

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/25/01
Well #:	TMW-16	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	64.05			Total Depth (ft):	75.09
Height of Water Column (ft):	11.04			One (1) Casing Volume (gal):	1.80
Depth to LPH (ft):	ND			LPH Thickness (ft):	ND
Purge Start Time:	11:35			Purge End Time:	11:44
Total Volume Purged (gal):	6				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
11:37	1	2	1.0	NA	66.2	4.34	7.88	163	
11:39	2	4	1.0	NA	68.8	2.37	7.47	62	
11:44	3	6	1.0	NA	72.4	2.34	7.85	79	

80% Recovery Depth (ft): 66.26 Depth to Water at Sampling (ft): NA
 Sample Collection Time: 11:50 Sample #: TMW-16-W-012501
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

Notes: Meter start: 77208 - meter became jammed with sediment, no end reading.

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Boeing Realty Corpora "Former C-6 Facility
Well Sampling Field Data Sheet

SITE:	ERC, Former C-6 Facility	Project #:	EM-2303	Date:	1/29/01
Well #:	TMW-1	Well Diameter (in):	2	Measurement Point: TOC/north	
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, HF Turbidity Meter, Hydac
Depth to Water (ft):	65.00	Total Depth (ft):	79.79		
Height of Water Column (ft):	14.79	One (1) Casing Volume (gal):	2.41		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	11:30	Purge End Time:	11:38		
Total Volume Purged (gal):	9				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (F)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Turbidity (NTU)	Observations
11:30	1	3	0.75	NA	58.7	2.71	7.58	NA	
11:34	2	6	0.75	NA	58.1	3.00	7.68	NA	
11:38	3	9	0.75	NA	58.8	3.61	7.37	NA	

80% Recovery Depth (ft): 67.95
 Sample Collection Time: 11:43
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals

Notes:

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/22/01
Well #:	WCC-6S	Well Diameter (in):	4	Measurement Point:	TOC/black mark
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solini, Horiba U-22
Depth to Water (ft):	65.27	Total Depth (ft):	88.50		
Height of Water Column (ft):	23.23	One (1) Casing Volume (gal):	16.0		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	9:06	Purge End Time:	9:54		
Total Volume Purged (gal):	48				

Time	No. Casting Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
9:06	0	0	0	65.34	21.6	2.40	6.55	7.60	227	Initial
9:22	1	16	1.0	66.33	24.2	2.27	6.88	3.94	-14	
9:38	2	32	1.0	66.36	24.0	2.39	6.92	3.04	-40	
9:54	3	48	1.0	66.38	24.1	2.34	6.94	2.62	-52	

80% Recovery Depth (ft):	69.91	Depth to Water at Sampling (ft):	66.38
Sample Collection Time:	10:07	Sample #:	WCC-6S-W-012201
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1		
Notes:	Start meter: 76664 end: 76709		

Boeing Realty Corpora, Former C-6 Facility
 Well Sampling Field Data Sheet
 Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/22/01
Well #:	TMW-7	Well Diametter (in):	2	Measurement Point:	TOC/black mark
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinist, Horiba U-22
Depth to Water (ft):	65.29			Total Depth (ft):	82.30
Height of Water Column (ft):	17.01			One (1) Casing Volume (gal):	2.77
Depth to LPH (ft):	ND			LPH Thickness (ft):	ND
Purge Start Time:	11:03			Purge End Time:	11:21
Total Volume Purged (gal):	10				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity (µs/cm x 1000)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
11:03	0	0	0	65.71	22.9	2.02	7.26	6.81	31	Initial
11:09	1	3	0.5	65.73	24.2	1.93	7.17	5.63	69	
11:15	2	6	0.5	65.69	24.6	1.88	7.17	5.17	77	
11:21	3	9	0.5	65.70	24.6	1.87	7.17	5.00	81	

80% Recovery Depth (ft):	68.69	Depth to Water at Sampling (ft):	65.34
Sample Collection Time:	11:30	Sample #:	TMW-7-W-012201
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1		
Notes:	Start meter: 76708.5 end: 76718.5		

Boeing Realty Corporation, Former C-6 Facility
 Well Sampling Field Data Sheet
 Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/22/01
Well #:	WCC-12S	Well Diametter (In):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, Horiba U-22
Depth to Water (ft):	60.95	Total Depth (ft):	90.29		
Height of Water Column (ft):	29.34	One (1) Casing Volume (gal):	19.07		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	12:16	Purge End Time:	13:32		
Total Volume Purged (gal):	79				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity (μ s/cm x 1000)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
12:16	0	0	0	61.60	23.5	1.83	6.67	7.40	180	Initial
12:35	1	19	1.0	61.70	24.2	1.60	7.08	8.42	139	
12:54	2	38	1.0	61.73	24.1	1.56	6.66	7.58	162	
13:13	3	57	1.0	61.69	24.1	1.61	7.01	7.48	148	
13:32	4	79	1.0	61.66	24.1	1.61	7.12	7.41	131	

80% Recovery Depth (ft):	66.81	Depth to Water at Sampling (ft):	60.98
Sample Collection Time:	13:40	Sample #:	WCC-12S-W-012201
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1		

Notes: Start meter: 76718.5; Disconnected Horiba at 12:36 to check meter - re-connect at 12:51. Duplicate sample collected (WCC-12S-D-012201) at 13:43.

Boeing Realty Corpora., Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/22/01
Well #:	TMW-12	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinist, Horiba U-22
Depth to Water (ft):	66.02	Total Depth (ft):	81.58		
Height of Water Column (ft):	15.56	One (1) Casing Volume (gal):	2.53		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	14:36	Purge End Time:	14:54		
Total Volume Purged (gal):	9				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
14:36	0	0	0	NA	22.8	1.97	6.87	3.65	202	Initial
14:42	1	3	0.5	NA	24.3	2.06	6.78	3.52	103	
14:48	2	6	0.5	NA	24.5	2.03	6.79	3.31	112	
14:54	3	9	0.5	NA	24.5	2.04	6.79	3.24	113	

80% Recovery Depth (ft): 69.13
Sample Collection Time: 15:05
Analysis: VOC's; Hexavalent Chromium; Total 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene)
Depth to Water at Sampling (ft): NA
Sample #: TMW-12-W-012201
Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1

Notes:

Notes:

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/23/01
Well #:	TMW-5	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, Horiba U-22
Depth to Water (ft):	64.90	Total Depth (ft):	79.90		
Height of Water Column (ft):	15.00	One (1) Casing Volume (gal):	2.45		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	7:35	Purge End Time:	7:53		
Total Volume Purged (gal):	10.5				

No. Casing Volumes Removed	Time	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity (µs/cm x 1000)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
0	7:35	0	0	65.02	16.9	0.69	6.54	8.67	249	Initial
1	7:41	3	0.5	NA	22.9	0.67	6.91	9.31	170	
2	7:47	6	0.5	65.25	23.1	0.66	7.17	9.54	141	
3	7:53	9	0.5	65.26	23.2	0.66	7.25	9.55	139	

80% Recovery Depth (ft): 67.90

Sample Collection Time 2:05

Analysis: VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene);
Sample #: MWV-3-WV-1230-1
Sample Date: 03/03
Sample Loc.: Sanjour, TX
Sample Desc.: Soil
Sample Type: Soil
Sample ID: MWV-3-WV-1230-1
Sample Sub ID: 115-1
Sample Size: 100g
Sample Weight: 100g
Sample Preparer: Cottrell, B.
Sample Processor: TOC by 115-1
Sample Matrix: Nitrate, Nitrite, Sulfate, Chloride, Alkalinity, Cations: TOC by 115-1

Notes: Meter start: 76806.5 end: 76817

Boeing Realty Corpora, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/23/01
Well #:	WCC-5S	Well Diameter (in):	4	Measurement Point:	TOC/black mark
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinist, Horiba U-22
Depth to Water (ft):	62.47		Total Depth (ft):	89.91	
Height of Water Column (ft):	27.44		One (1) Casing Volume (gal):	17.84	
Depth to LPH (ft):	ND		LPH Thickness (ft):	ND	
Purge Start Time:	9:32		Purge End Time:	10:26	
Total Volume Purged (gal):	54				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
9:32	0	0	0	62.71	20.0	1.57	6.75	7.03	291	Initial
9:50	1	18	1.0	62.92	23.8	1.74	7.03	6.91	163	
10:08	2	36	1.0	62.93	23.8	1.78	7.06	6.81	152	
10:26	3	54	1.0	63.07	23.6	1.77	7.07	7.08	145	

80% Recovery Depth (ft): 67.95 Depth to Water at Sampling (ft): 62.61
 Sample Collection Time: 10:35 Sample #: WCC-5S-W-012301
 Analysis: VOC's; Hexavalent Chromium; Total 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1

Notes: Meter start: 76817 end: 76871

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/23/01
Well #:	WCC-11S	Well Diameter (in):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, Horiba U-22
Depth to Water (ft):	64.45	Total Depth (ft):	91.00		
Height of Water Column (ft):	26.55	One (1) Casing Volume (gal):	17.52		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	13:38	Purge End Time:	14:32		
Total Volume Purged (gal):	54				

No. Casing Volumes Removed	Time	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity (µs/cm x 1000)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
0	13:38	0	0	64.45	26.7	1.57	7.27	5.35	172	Initial
1	13:56	18	1.0	65.88	23.1	1.77	7.19	5.75	113	
2	14:14	36	1.0	65.88	23.1	1.74	7.21	5.44	117	
3	14:32	54	1.0	66.06	23.0	1.72	7.22	5.22	121	

80% Recovery Depth (ft):

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Sail number #: MCC-1 | S-W-U-1230

); RSK-175 (Methane, Ethane, Ethene);

Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1

Notes: Meter start: 76875 meter stuck at 76919. This test was stopped at 12:00 due to pump problems and resumed again. Duplicate collected (WCC-11S-D-012301) at 14:50.

Boeing Realty Corpora¹, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/29/01					
Well #:	TMW-6	Well Diameter (in):	2	Measurement Point: TOC/north						
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment: Solinst, Horiba U-22						
Depth to Water (ft):	64.93	Total Depth (ft):	79.48							
Height of Water Column (ft):	14.55	One (1) Casing Volume (gal):	2.37							
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND							
Purge Start Time:	8:13	Purge End Time:	8:31							
Total Volume Purged (gal):	9									
No.	Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity (μs/cm x 1000)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
8:13	0	0	0	NA	16.5	1.84	6.52	6.09	95	Initial
8:19	1	3	0.5	NA	21.1	2.08	6.91	7.13	92	
8:25	2	6	0.5	NA	21.4	2.12	7.03	7.11	95	
8:31	3	9	0.5	NA	21.5	2.13	7.05	7.06	97	
80% Recovery Depth (ft):	67.84	Depth to Water at Sampling (ft):	65.24							
Sample Collection Time:	8:40	Sample #: TMW-6-W-012901								
Analysis: VOC's; Hexavalent Chromium; Total 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1										
Notes:										

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Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/29/01
Well #:	TMW-4	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	SoliniST, Horiba U-22
Depth to Water (ft):	64.87	Total Depth (ft):	78.35		
Height of Water Column (ft):	13.48	One (1) Casing Volume (gal):	2.19		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	9:29	Purge End Time:	9:47		
Total Volume Purged (gal):	9				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
9:29	0	0	0	NA	17.9	1.77	6.64	6.88	100	Initial
9:35	1	3	0.5	NA	23.1	1.76	6.95	7.08	91	
9:41	2	6	0.5	NA	23.2	1.76	7.10	6.79	93	
9:47	3	9	0.5	NA	23.3	1.76	7.12	6.67	95	

80% Recovery Depth (ft):	67.56	Depth to Water at Sampling (ft):	NA
Sample Collection Time:	10:00	Sample #:	TMW-4-W-012901
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1		
Notes:	Duplicate collected (TMW-4-D-012901) at 10:05.		

Boeing Realty Corp., Inc., Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/29/01
Well #:	TMW-3	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, Horiba U-22
Depth to Water (ft):	65.41	Total Depth (ft):	81.87		
Height of Water Column (ft):	16.46	One (1) Casing Volume (gal):	2.68		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	10:48	Purge End Time:	11:06		
Total Volume Purged (gal):	9				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
10:48	0	0	0	NA	21.1	0.97	7.02	8.63	108	Initial
10:54	1	3	0.5	NA	22.4	0.93	7.14	9.19	91	
11:00	2	6	0.5	NA	24.5	0.92	7.19	8.97	93	
11:06	3	9	0.5	NA	24.6	0.92	7.20	8.89	98	

80% Recovery Depth (ft):	68.70	Depth to Water at Sampling (ft):	66.27
Sample Collection Time:	11:25	Sample #:	TMW-3-W-012901
Analysis:	VOC's, Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1		

Notes:

Boeing Realty Corporation, Former C-6 Facility
 Well Sampling Field Data Sheet
 Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/29/01
Well #:	TMW-9	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	SoliniST, Horiba U-22
Depth to Water (ft):	65.41	Total Depth (ft):	79.03		
Height of Water Column (ft):	13.62	One (1) Casing Volume (gal):	2.22		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	12:02	Purge End Time:	12:20		
Total Volume Purged (gal):	9				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
12:02	0	0	0	65.56	21.9	1.52	7.24	6.82	101	Initial
12:08	1	3	0.5	NA	23.7	1.58	7.22	7.73	96	
12:14	2	6	0.5	NA	24.3	1.56	7.24	7.64	72	
12:20	3	9	0.5	NA	24.5	1.57	7.26	7.72	73	

80% Recovery Depth (ft): 68.13 Depth to Water at Sampling (ft): 65.55
 Sample Collection Time: 12:25 Sample #: TMW-9-W-012901
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1

Notes:

Boeing Realty Corpora., Former C-6 Facility
 Well Sampling Field Data Sheet
 Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	1/29/01
Well #:	XMW-09	Well Diameter (in):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	SoliniST, Horiba U-22
Depth to Water (ft):	68.80			Total Depth (ft):	79.35
Height of Water Column (ft):	10.55			One (1) Casing Volume (gal):	6.85
Depth to LPH (ft):	ND			LPH Thickness (ft):	ND
Purge Start Time:	13:42			Purge End Time:	14:03
Total Volume Purged (gal):	21				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
13:42	0	0	0	69.66	22.2	2.11	6.59	0.10	54	Initial
13:49	1	7	1.0	69.73	23.4	2.19	6.64	1.61	52	
13:56	2	14	1.0	69.74	23.5	2.21	6.67	3.60	55	
14:03	3	21	1.0	69.74	23.6	2.21	6.68	3.19	55	

80% Recovery Depth (ft): 70.91 Depth to Water at Sampling (ft): 69.74
 Sample Collection Time: 14:10 Sample #: XMW-09-W-012901
 Analysis: VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1

Notes:

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	ELM-2303	Date:	2/3/01
Well #:	WCC-3S	Well Diameter (in):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, Horiba U-22
Depth to Water (ft):	64.87	Total Depth (ft):	88.82		
Height of Water Column (ft):	23.95	One (1) Casing Volume (gal):	15.56		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	8:30	Purge End Time:	9:18		
Total Volume Purged (gal):	48				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations	
										Initial	Final
8:30	0	0	0	65.12	22.6	0.40	6.2	1.4	-55		
8:46	1	16	1.0	65.14	23.2	0.32	6.5	0.2	-132		
9:02	2	32	1.0	65.15	23.4	0.28	6.5	0.2	-178		
9:18	3	48	1.0	65.15	23.3	0.26	6.5	0.2	-187		

80% Recovery Depth (ft): 69.66 Depth to Water at Sampling (ft): 65.15

Sample #: WCC-3S-W-020301

Analysis: VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations: TOC by A115-1

Notes: Calibrated Horiba U-22 prior to purging wells at the start of the day.

Boeing Realty Corporat **Former C-6 Facility**
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	2/3/01
Well #:	WCC-3D	Well Diameter (in):	4	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinist, Horiba U-22
Depth to Water (ft):	65.01	Total Depth (ft):	139.69		
Height of Water Column (ft):	74.68	One (1) Casing Volume (gal):	47.79		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	10:15	Purge End Time:	11:27		
Total Volume Purged (gal):	144				

Time	No. Casing Volumes Removed	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity ($\mu\text{s}/\text{cm} \times 1000$)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
10:15	0	0	0	67.95	22.2	75	7.5	5.2	6	Initial
10:39	1	48	2.0	69.42	23.5	73	7.3	0.6	-15	
11:03	2	96	2.0	69.03	23.6	72	7.5	0.4	-23	
11:27	3	144	2.0	68.76	23.7	68	7.5	0.3	-33	

80% Recovery Depth (ft):	79.94	Depth to Water at Sampling (ft):	68.25
Sample Collection Time:	11:40	Sample #:	WCC-3D-W-020301
Analysis:	VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSSK-175 (Methane, Ethane, Ethene); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity; Cations; TOC by 415.1		

Notes:	I did not leave the dedicated tubing in this well due to the depth of the well (139') and the length of tubing (100') - I did not want tubing to fall into well.
---------------	--

Boeing Realty Corporation, Former C-6 Facility
Well Sampling Field Data Sheet
Natural Attenuation Sampling

SITE:	BRC, Former C-6 Facility	Project #:	EM-2303	Date:	2/3/01
Well #:	TMW-2	Well Diameter (in):	2	Measurement Point:	TOC/north
Purge Method:	2-inch Grundfos	Sample Method:	2-inch Grundfos w/ dedicated tubing	Equipment:	Solinst, Horiba U-22
Depth to Water (ft):	64.93	Total Depth (ft):	79.74		
Height of Water Column (ft):	14.81	One (1) Casing Volume (gal):	2.41		
Depth to LPH (ft):	ND	LPH Thickness (ft):	ND		
Purge Start Time:	12:16	Purge End Time:	12:34		
Total Volume Purged (gal):	9				

No. Casing Volumes Removed	Time	Volume Purged (gal)	Purge Rate (gpm)	Depth to Water (ft)	Temp (C)	Conductivity (µs/cm x 1000)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Observations
0	12:16	0	0	NA	23.3	0.32	6.6	1.0	-192	Initial
1	12:22	3	0.5	NA	22.9	0.31	6.5	0.3	-195	
2	12:28	6	0.5	NA	23.2	0.30	6.6	0.2	-185	
3	12:34	9	0.5	NA	23.3	0.29	6.7	0.2	-180	

80% Recovery Depth (ft): 67.89 Depth to Water at Sampling (ft): NA

Sample #: TMW-2-W-020301

Analysis: VOC's; Hexavalent Chromium; Title 22 Metals; Ferrous Iron; Dissolved Metals (filtered); RSK-175 (Methane, Ethane, Etheno); Nitrate, Nitrite, Sulfate, Chloride, Alkalinity, Cations: TOC by 415.1

Notes:

Appendix B

Analytical Reports and Chain-of-Custody Records (STL, Los Angeles)

E1A180289
E1A190286
E1A220187
E1A230242
E1A240247
E1A250315
E1A290172
E1B030154
E1C210182
E1E000297

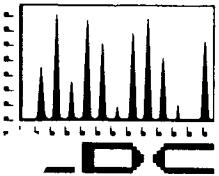
Please Note: Due to the high volume of pages, the Analytical Reports and Chain-of-Custody Records (STL, Los Angeles) are not in this copy of the report.

All laboratory data is located on the attached CD

Appendix C

*Data Validation Report
by Laboratory Data Consultants, Inc.*

Volatiles
Metals
Wet Chemistry
Hexavalent Chromium
Dissolved Metals
Methane-Ethane-Ethene



LABORATORY DATA CONSULTANTS, INC.

7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Haley & Aldrich, Inc.
9040 Friars Road, Suite 202
San Diego, CA 92108
ATTN: Mr. Michael McDowell

June 4, 2001

SUBJECT: Boeing C-6 Site, Data Validation

Dear Mr. McDowell,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 4, 2001. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 6395:

<u>SDG #</u>	<u>Fraction</u>
---------------------	------------------------

E1A190286, E1A290172,	Volatiles, Metals, Dissolved Metals, Methane-Ethane-Ethene, Wet Chemistry, Hexavalent Chromium
-----------------------	--

The data validation was performed under Tier 2 and Tier 3 guidelines. The analyses were validated using the following documents, as applicable to each method:

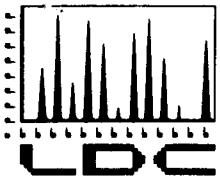
- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996

Completion of the following sample delivery group fractions are pending the arrival of additional data which has been requested from Orange Coast Analytical Service. The completed validation report for this fraction will be sent following receipt and review of this data.

RECEIVED

JUN 14 2001

ENGLAND GEOSYSTEM, INC.



LDC Project # 6395:

SDG #

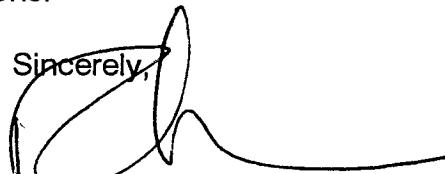
KJC10770, KJC10776,
KJC10779, KJC10298,
KJC10299, KJC10301,
KJC10304, KJC10307,
KJC11587, KJC11589,
KJC11594, KJC11598

Fraction

Volatiles, Semivolatiles, Chlorinated Pesticides, Metals,
Total Volatile Fuel Hydrocarbons, TPH as Extractables,
Hexavalent Chromium

Please feel free to contact us if you have any questions.

Sincerely,



Richard M. Amano
President/Principal Chemist

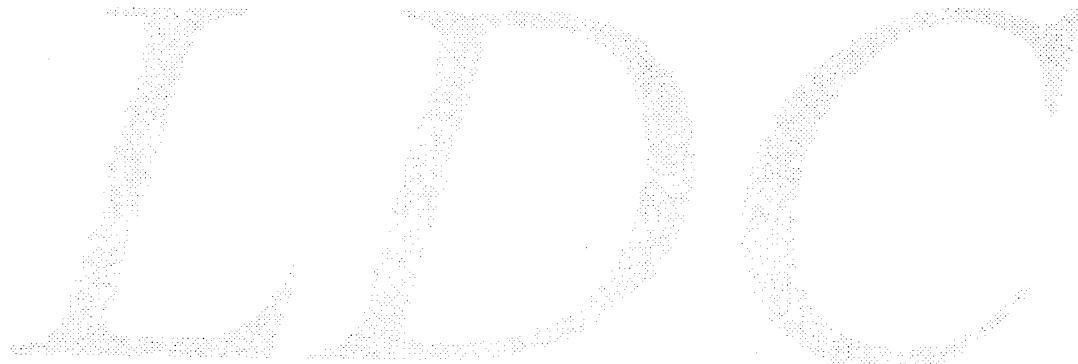
Attachment 1

LDC #6395 (Haley & Aldrich/Boeing C-6 Site)
Attachment 1

These sample counts do not include MS/MSD, and DUPS

**Boeing C-6 Site
Data Validation Reports
LDC# 6395**

Volatiles



Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing Redevelopment Corp., C-6 Site

Collection Date: January 19, 2001

LDC Report Date: May 11, 2001

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 3

Laboratory: Severn Trent Laboratories

Sample Delivery Group (SDG): E1A190286

Sample Identification

BL-2-W-011901

TMW-10-W-011901

WCC-95-W-011901

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
10/13/00	Acetone Acrolein Acrylonitrile 2-Butanone Tetrahydrofuran 2-Chloroethylvinyl ether	0.01842 (≥ 0.05) 0.00569 (≥ 0.05) 0.01530 (≥ 0.05) 0.03386 (≥ 0.05) 0.02200 (≥ 0.05) 0.01625 (≥ 0.05)	All samples in SDG E1A190286	J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/24/01	Bromomethane 2-Butanone 2-Hexanone	25.2 25.2 29.7	All samples in SDG E1A190286	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
1/24/01	Acrolein 2-Chloroethylvinyl ether	0.00472 (≥ 0.05) 0.01279 (≥ 0.05)	All samples in SDG E1A190286	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A
1/24/01	Acetone Acrylonitrile 2-Butanone Tetrahydrofuran	0.01486 (≥ 0.05) 0.01414 (≥ 0.05) 0.02533 (≥ 0.05) 0.01953 (≥ 0.05)	All samples in SDG E1A190286	J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
1025358BLK	1/24/01	Carbon disulfide	0.69 ug/L	All samples in SDG E1A190286

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Redevelopment Corp., C-6 Site
Volatiles - Data Qualification Summary - SDG E1A190286

SDG	Sample	Compound	Flag	A or P	Reason
E1A190286	BL-2-W-011901 TMW-10-W-011901 WCC-95-W-011901	Acetone Acrolein Acrylonitrile 2-Butanone Tetrahydrofuran 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
E1A190286	BL-2-W-011901 TMW-10-W-011901 WCC-95-W-011901	Bromomethane 2-Butanone 2-Hexanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
E1A190286	BL-2-W-011901 TMW-10-W-011901 WCC-95-W-011901	Acrolein 2-Chloroethylvinyl ether	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A	Continuing calibration (RRF)
E1A190286	BL-2-W-011901 TMW-10-W-011901 WCC-95-W-011901	Acetone Acrylonitrile 2-Butanone Tetrahydrofuran	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

Boeing Redevelopment Corp., C-6 Site
Volatiles - Laboratory Blank Data Qualification Summary - SDG E1A190286

No Sample Data Qualified in this SDG

6395A

TAIT ENVIRONMENTAL

Client Sample ID: BL-2-W-011901

GC/MS Volatiles

Lot-Sample #....: E1A190286-001 Work Order #....: DTXAL1AC Matrix.....: WATER
 Date Sampled...: 01/19/01 10:40 Date Received...: 01/19/01 16:30 MS Run #.....: 1025176
 Prep Date.....: 01/25/01 Analysis Date...: 01/25/01
 Prep Batch #....: 1025358 Analysis Time...: 03:26
 Dilution Factor: 1
 Analyst ID.....: 004648 Instrument ID...: MSH
 Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Acetone	ND	10	ug/L	3.0 <i>UJ</i>
Benzene	ND	1.0	ug/L	0.30
Bromobenzene	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	1.0	ug/L	0.30
Carbon tetrachloride	ND	2.0	ug/L	1.0 <i>UJ</i>
2-Butanone	ND	0.50	ug/L	0.30
n-Butylbenzene	ND	5.0	ug/L	3.0 <i>UJ</i>
sec-Butylbenzene	ND	1.0	ug/L	0.30
tert-Butylbenzene	ND	1.0	ug/L	0.30
Carbon disulfide	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	0.94 J	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.40
1,2-Dichloroethane	1.0	0.50	ug/L	0.30
Chloroethane	ND	2.0	ug/L	0.20
Chloroform	1.3	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.20
2-Chlorotoluene	ND	1.0	ug/L	0.30
4-Chlorotoluene	ND	1.0	ug/L	0.30
1,2-Dibromo-3-chloro-propane	ND	1.0	ug/L	0.30
1,2-Dibromoethane	ND	2.0	ug/L	0.60
Iodomethane	ND	1.0	ug/L	0.30
1,2-Dichlorobenzene	ND	2.0	ug/L	1.0
1,3-Dichlorobenzene	ND	1.0	ug/L	0.20
1,4-Dichlorobenzene	ND	1.0	ug/L	0.20
1,1-Dichloroethane	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.20
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
Vinyl chloride	ND	1.0	ug/L	0.20
2,2-Dichloropropane	ND	0.50	ug/L	0.30
1,1-Dichloropropene	ND	1.0	ug/L	0.30
Ethylbenzene	ND	1.0	ug/L	0.30
Hexachlorobutadiene	ND	1.0	ug/L	0.20
				0.30

(Continued on next page)

0 08

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6-4-01

TAIT ENVIRONMENTAL

Client Sample ID: BL-2-W-011901

GC/MS Volatiles

Lot-Sample #....: E1A190286-001 Work Order #....: DTXALLAC Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Hexanone	ND	5.0	ug/L	2.0 <i>uj</i>
Isopropylbenzene	ND	1.0	ug/L	0.20
p-Isopropyltoluene	ND	1.0	ug/L	0.20
Methylene chloride	1.0	1.0	ug/L	0.20
4-Methyl-2-pentanone	ND	5.0	ug/L	2.0
Methyl tert-butyl ether	ND	1.0	ug/L	0.50
n-Propylbenzene	ND	1.0	ug/L	0.40
Styrene	ND	1.0	ug/L	0.30
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.30
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.70
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.30
1,2,4-Trichloro- benzene	ND	1.0	ug/L	0.40
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	4.0	1.0	ug/L	0.30
Trichlorofluoromethane	0.72 J	2.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.30
1,1,2-Trichlorotrifluoro- ethane	ND	1.0	ug/L	0.20
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.20
1,3,5-Trimethylbenzene	ND	1.0	ug/L	0.20
Xylenes (total)	ND	1.0	ug/L	0.50
Acrolein	ND	20	ug/L	12 <i>R</i>
Acrylonitrile	ND	20	ug/L	10 <i>uj</i>
Vinyl acetate	ND	5.0	ug/L	1.0
Tetrahydrofuran	ND	10	ug/L	2.0 <i>uj</i>
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0 <i>R</i>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	101	(75 - 120)
1,2-Dichloroethane-d4	115	(65 - 130)
Toluene-d8	104	(80 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

0 09

*A
6407*

TAIT ENVIRONMENTAL

Client Sample ID: TMW-10-W-011901

GC/MS Volatiles

Lot-Sample #....: E1A190286-002 Work Order #....: DTXAQ1AC Matrix.....: WATER
 Date Sampled....: 01/19/01 11:40 Date Received...: 01/19/01 16:30 MS Run #.....: 1025176
 Prep Date.....: 01/25/01 Analysis Date...: 01/25/01
 Prep Batch #....: 1025358 Analysis Time...: 03:56
 Dilution Factor: 12.5
 Analyst ID.....: 004648 Instrument ID...: MSH
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	120	ug/L	38 UJ
Benzene	ND	12	ug/L	3.8
Bromobenzene	ND	12	ug/L	3.8
Bromochloromethane	ND	12	ug/L	3.8
Bromoform	ND	12	ug/L	3.8
Bromomethane	ND	12	ug/L	3.8
Carbon tetrachloride	ND	25	ug/L	12 UJ
2-Butanone	ND	6.2	ug/L	3.8
n-Butylbenzene	ND	62	ug/L	38 UJ
sec-Butylbenzene	ND	12	ug/L	3.8
tert-Butylbenzene	ND	12	ug/L	3.8
Carbon disulfide	ND	12	ug/L	2.5
Chlorobenzene	ND	12	ug/L	3.8
Dibromochloromethane	ND	12	ug/L	3.8
Dichlorodifluoromethane	ND	12	ug/L	3.8
Bromodichloromethane	ND	12	ug/L	5.0
1,2-Dichloroethane	ND	12	ug/L	3.8
Chloroethane	ND	6.2	ug/L	2.5
Chloroform	3.3 J	25	ug/L	3.8
Chloromethane	ND	12	ug/L	2.5
2-Chlorotoluene	ND	25	ug/L	3.8
4-Chlorotoluene	ND	12	ug/L	3.8
1,2-Dibromo-3-chloropropane	ND	12	ug/L	3.8
1,2-Dibromoethane	ND	25	ug/L	7.5
Iodomethane	ND	12	ug/L	3.8
1,2-Dichlorobenzene	ND	25	ug/L	12
1,3-Dichlorobenzene	ND	12	ug/L	2.5
1,4-Dichlorobenzene	ND	12	ug/L	2.5
1,1-Dichloroethane	ND	12	ug/L	3.8
cis-1,2-Dichloroethene	ND	12	ug/L	2.5
trans-1,2-Dichloroethene	ND	12	ug/L	3.8
Vinyl chloride	ND	12	ug/L	2.5
2,2-Dichloropropane	ND	6.2	ug/L	3.8
1,1-Dichloropropene	ND	12	ug/L	3.8
Ethylbenzene	ND	12	ug/L	3.8
Hexachlorobutadiene	ND	12	ug/L	2.5
			ug/L	3.8

(Continued on next page)

0 10

A
6/14/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW-10-W-011901

GC/MS Volatiles

Lot-Sample #....: E1A190286-002 Work Order #....: DTXAQ1AC Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Hexanone	ND	62	ug/L	25 UJ
Isopropylbenzene	ND	12	ug/L	2.5
p-Isopropyltoluene	ND	12	ug/L	2.5
Methylene chloride	ND	12	ug/L	2.5
4-Methyl-2-pentanone	ND	62	ug/L	2.5
Methyl tert-butyl ether	ND	12	ug/L	25
n-Propylbenzene	ND	12	ug/L	6.2
Styrene	ND	12	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	12	ug/L	3.8
1,1,2,2-Tetrachloroethane	ND	12	ug/L	3.8
Tetrachloroethene	ND	12	ug/L	3.8
Toluene	13	12	ug/L	8.8
1,2,3-Trichlorobenzene	ND	12	ug/L	3.8
1,2,4-Trichloro- benzene	ND	12	ug/L	5.0
1,1,1-Trichloroethane	ND	12	ug/L	2.5
1,1,2-Trichloroethane	ND	12	ug/L	3.8
Trichloroethene	850	12	ug/L	3.8
Trichlorofluoromethane	ND	25	ug/L	2.5
1,2,3-Trichloropropane	ND	12	ug/L	3.8
1,1,2-Trichlorotrifluoro- ethane	ND	12	ug/L	2.5
1,2,4-Trimethylbenzene	ND	12	ug/L	2.5
1,3,5-Trimethylbenzene	ND	12	ug/L	2.5
Xylenes (total)	ND	12	ug/L	6.2
Acrolein	ND	250	ug/L	150 R
Acrylonitrile	ND	250	ug/L	120 UJ
Vinyl acetate	ND	62	ug/L	12
Tetrahydrofuran	ND	120	ug/L	25 UJ
2-Chloroethyl vinyl ether	ND	62	ug/L	25 R

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	104	(75 - 120)
1,2-Dichloroethane-d4	110	(65 - 130)
Toluene-d8	105	(80 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

Q 11

6-4-5

TAIT ENVIRONMENTAL

Client Sample ID: WCC-95-W-011901

GC/MS Volatiles

Lot-Sample #....: E1A190286-003 Work Order #....: DTXAT1AC Matrix.....: WATER
 Date Sampled....: 01/19/01 00:55 Date Received...: 01/19/01 16:30 MS Run #.....: 1025176
 Prep Date.....: 01/25/01 Analysis Date...: 01/25/01
 Prep Batch #....: 1025358 Analysis Time...: 04:26
 Dilution Factor: 1
 Analyst ID.....: 004648 Instrument ID...: MSH
 Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Acetone	ND	10	ug/L	3.0 <i>UJ</i>
Benzene	ND	1.0	ug/L	0.30
Bromobenzene	ND	1.0	ug/L	0.30
Bromochloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0 <i>UJ</i>
Carbon tetrachloride	ND	0.50	ug/L	0.30
2-Butanone	ND	5.0	ug/L	3.0 <i>UJ</i>
n-Butylbenzene	ND	1.0	ug/L	0.30
sec-Butylbenzene	ND	1.0	ug/L	0.30
tert-Butylbenzene	ND	1.0	ug/L	0.30
Carbon disulfide	ND	1.0	ug/L	0.20
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	0.98 J	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.40
1,2-Dichloroethane	ND	0.50	ug/L	0.30
Chloroethane	ND	2.0	ug/L	0.20
Chloroform	6.8	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.20
2-Chlorotoluene	ND	1.0	ug/L	0.30
4-Chlorotoluene	ND	1.0	ug/L	0.30
1,2-Dibromo-3-chloro-propane	ND	1.0	ug/L	0.30
1,2-Dibromoethane	ND	2.0	ug/L	0.60
Iodomethane	ND	1.0	ug/L	0.30
1,2-Dichlorobenzene	ND	2.0	ug/L	1.0
1,3-Dichlorobenzene	ND	1.0	ug/L	0.20
1,4-Dichlorobenzene	ND	1.0	ug/L	0.20
1,1-Dichloroethane	1.3	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.20
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
Vinyl chloride	ND	1.0	ug/L	0.20
2,2-Dichloropropane	ND	0.50	ug/L	0.30
1,1-Dichloropropene	ND	1.0	ug/L	0.30
Ethylbenzene	ND	1.0	ug/L	0.30
Hexachlorobutadiene	ND	1.0	ug/L	0.20
				0.30

(Continued on next page)

0 12

A
6-457

TAIT ENVIRONMENTAL

Client Sample ID: WCC-95-W-011901

GC/MS Volatiles

Lot-Sample #....: E1A190286-003 Work Order #....: DTXAT1AC Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Hexanone	ND	5.0	ug/L	2.0 UJ
Isopropylbenzene	ND	1.0	ug/L	0.20
p-Isopropyltoluene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.20
4-Methyl-2-pentanone	ND	5.0	ug/L	0.20
Methyl tert-butyl ether	ND	1.0	ug/L	2.0
n-Propylbenzene	ND	1.0	ug/L	0.50
Styrene	ND	1.0	ug/L	0.40
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.30
Tetrachloroethene	ND	1.0	ug/L	0.70
Toluene	8.7	1.0	ug/L	0.30
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.40
1,2,4-Trichloro- benzene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	73	1.0	ug/L	0.30
Trichlorofluoromethane	0.54 J	2.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.30
1,1,2-Trichlorotrifluoro- ethane	ND	1.0	ug/L	0.20
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.20
1,3,5-Trimethylbenzene	ND	1.0	ug/L	0.20
Xylenes (total)	ND	1.0	ug/L	0.50
Acrolein	ND	20	ug/L	12 R
Acrylonitrile	ND	20	ug/L	10 UJ
Vinyl acetate	ND	5.0	ug/L	1.0
Tetrahydrofuran	ND	10	ug/L	2.0 UJ
2-Chloroethyl vinyl ether	ND	5.0	ug/L	2.0 R

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	102	(75 - 120)
1,2-Dichloroethane-d4	105	(65 - 130)
Toluene-d8	102	(80 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

0 13

A
6-4-01

LDC #: 6395A1**VALIDATION COMPLETENESS WORKSHEET**SDG #: E1A190286X Tier 3Laboratory: Severn Trent LaboratoriesDate: 5/7/01Page: 1 of 1Reviewer: Q2nd Reviewer: A**METHOD:** GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>1/19/01</u>
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	N	
IV.	Continuing calibration	N	
V.	Blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	<u>LCG</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	<u>Not reported.</u>
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable

ND = No compounds detected

D = Duplicate

N = Not provided/applicable

R = Rinsate

TB = Trip blank

SW = See worksheet

FB = Field blank

EB = Equipment blank

Validated Samples:

1	BL-2-W-011901	W	11		21		31	
2	TMW-10-W-011901	✓	12		22		32	
3	WCC-95-W-011901	✓	13		23		33	
4	102535884		14		24		34	
5			15		25		35	
6			16		26		36	
7			17		27		37	
8			18		28		38	
			19		29		39	
10			20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	Q. 1,2-Dichloropropane**	GG. Xylenes, total	WW. Bromobenzene	MM. Naphthalene
B. Bromomethane	R. cis-1,3-Dichloropropene	HH. Vinyl acetate	XX. 1,2,3-Trichloropropane	NNN. 1,2,3-Trichlorobenzene
C. Vinyl chloride†*	S. Trichloroethene	II. 2-Chloroethylvinyl ether	YY. n-Propylbenzene	OOO. 1,3,5-Trichlorobenzene
D. Chloroethane	T. Dibromochloromethane	JJ. Dichlorodifluoromethane	ZZ. 2-Chlorotoluene	PPP. trans-1,2-Dichloroethene
E. Methylene chloride	U. 1,1,2-Trichloroethane	KK. Trichlorofluoromethane	AAA. 1,3,5-Trimethylbenzene	QQQ. cis-1,2-Dichloroethene
F. Acetone	V. Benzene	LL. Methyl-tert-butyl ether	BBB. 4-Chlorotoluene	RRR. m,p-Xylenes
G. Carbon disulfide	W. trans-1,3-Dichloropropene	MM. 1,2-Dibromo-3-chloropropane	CCC. tert-Butylbenzene	SSS. o-Xylene
H. 1,1-Dichloroethene**	X. Bromoform*	NN. Diethyl ether	DDD. 1,2,4-Trimethylbenzene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane
I. 1,1-Dichloroethane*	Y. 4-Methyl-2-pentanone	OO. 2,2-Dichloropropane	EEE. sec-Butylbenzene	UUU. Benzyl chloride
J. 1,2-Dichloroethene, total	Z. 2-Hexanone	PP. Bromochloromethane	FFF. 1,3-Dichlorobenzene	VVV. 4-Ethyltoluene
K. Chloroform**	AA. Tetrachloroethene	QQ. 1,1-Dichloropropene	GGG. p-Isopropyltoluene	WWW. Ethanol
L. 1,2-Dichloroethane	BB. 1,1,2,2-Tetrachloroethane**	RR. Dibromomethane	HHH. 1,4-Dichlorobenzene	XXX. Ethyl ether
M. 2-Butanone	CC. Toluene**	SS. 1,3-Dichloropropane	III. n-Butylbenzene	YYY. Acetonitrile
N. 1,1,1-Trichloroethane	DD. Chlorobenzene*	TT. 1,2-Dibromoethane	JJJ. 1,2-Dichlorobenzene	ZZZ. Acrolein
O. Carbon tetrachloride	EE. Ethylbenzene**	UU. 1,1,2-Tetrachloroethane	KKK. 1,2,4-Trichlorobenzene	AAA. Acrylonitrile
P. Bromodichloromethane	FF. Styrene	WW. Isopropylbenzene	LLL. Hexachlorobutadiene	BBB. 1,4-Dioxane

* = System performance check compounds (SPCC) for RRF; ** = Calibration check compounds (CCC) for %RSD.

Notes:

CCCC. Isobutyl alcohol
 DDDD. Methacrylonitrile
 EEEE. Propionitrile

LDC #: 639581
SDG #: EIA 190286

VALIDATION FINDINGS WORKSHEET

Technical Holding Times

Page: _____ of _____
Reviewer: _____
2nd Reviewer: _____

All circled dates have exceeded the technical holding times.

N/A Were all cooler temperatures within validation criteria?

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

TECHNICAL HOLDING TIME CRITERIA

Wat: unpreserved:

Wa. preserved;

Soil:

Aromatic within 7 days, non-aromatic within 14 days of exposure to light

Aromatic within 7 days, non-aromatic with Both within 14 days of sample collection

Both within 14 days of sample collection.

LDC #: 6395A
SDG #: ZIA19028C

VALIDATION FINDINGS WORKSHEET

GC/MS Performance Check

VALIDATION FINDINGS WORKSHOP GC/MS Performance Check

Page: (of)
viewer:

Behavior

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y	N	NA
Were the BFB performance results reviewed and found to be within the EPA Functional Guideline criteria?		
Y	N	NA
Were all samples analyzed within the 12 hour clock criteria?		

ION ABUNDANCE CRITERIA		<u>m/z</u>	ION ABUNDANCE CRITERIA
50	15 - 40.0% of m/z 95	174	Greater than 50.0% of m/z 95
75	30.0 - 60.0% of m/z 95	175	5.0 - 9.0% of mass 174
95	Base peak, 100% relative abundance	176	Greater than 95.0% but < 101%
16	5.0 - 9.0% of m/z 95	177	5.0 - 9.0% of m/z 176
73	Less than 2.0% of m/z 174		

LDC #:6395A
SDG #21 • 19028C

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Page: 1 of 1
Rev: 9
2nd Reviewer:

Please see qualifications below for all questions answered.

CLINICAL 1SB

LDC #: 4395A1
SDG #: 2A170-285

VALIDATION FINDINGS WORKSHEET

Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: g
2nd Reviewer: K

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = \frac{(A_s)(C_x)}{(A_r)(C_s)}$$

average RRF = sum of the RRFs/number of standards

%RSD = $100 * \frac{S}{X}$

A_s = Area of compound,
 C_x = Concentration of compound,
 S = Standard deviation of the RRFs
 X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (10 std)	RRF (10 std)	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	<u>2A2</u>	<u>10/13/00</u>	Methylene chloride (1st internal standard)	0.25878	0.25878	0.25859	0.25859	+ .110	+ .110
			Trichloroethene (2nd internal standard)	0.72679	0.72679	0.64620	0.64620	- 9.059	- 9.059
			Toluene (3rd internal standard)	1.32951	1.32951	1.20687	1.20687	- 9.998	- 9.998
2			Methylene chloride (1st internal standard)						
			Trichloroethene (2nd internal standard)						
			Toluene (3rd internal standard)						
3			Methylene chloride (1st internal standard)						
			Trichloroethene (2nd internal standard)						
			Toluene (3rd internal standard)						
4			Methylene chloride (1st internal standard)						
			Trichloroethene (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 639561
SDG #: A190286

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: J
2nd Reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$
$$\text{RRF} = (A_x)(C_s) / (A_s)(C_x)$$

Where: ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

A_x = Area of compound,

A_s = Area of associated internal standard

C_x = Concentration of compound,

C_s = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)		Reported	Recalculated	%D	Recalculated
				RRF	(CC)				
1	432375	1/24/01	Methylene chloride (1st internal standard)	0.25859	0.25565	0.25565	0.25565	-1	-1
			Trichlorethane (2nd internal standard)	0.64620	0.65260	0.65260	0.65260	-1.0	-1.0
			Toluene (3rd internal standard)	1.20287	1.26539	1.26539	1.26539	-4.8	-4.8
2			Methylene chloride (1st internal standard)						
			Trichlorethane (2nd internal standard)						
			Toluene (3rd internal standard)						
3			Methylene chloride (1st internal standard)						
			Trichlorethane (2nd internal standard)						
			Toluene (3rd internal standard)						
4			Methylene chloride (1st internal standard)						
			Trichlorethane (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 639581
SDG #: A190280

VALIDATION FINDINGS WORKSHEET

Page: 1
Reviewed: 9
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a method blank associated with every sample in this SDG? N/A

Was a method blank analyzed at least once every 12 hours for each matrix and concentration?

Was there contamination in the method blanks? If yes please see the classification below:

Was there contamination in the method blanks? If yes, please see the qualifications below.

Associated Samples:

Blank analysis date: _____
Some unused

Song. units:

Results were qualified using the criteria stated below except those circled

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TiCs that were detected in samples within ten times the associated method blank concentration were identified as not detected.¹¹ Other contaminants within five times the method blank concentration were also quantified.¹¹

LDC #: 6395A
SDG #: 63A19028C

VALIDATION FINDINGS WORKSHEET

Surrogate Spikes

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were all surrogate %R within QC limits?

Y N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

SMC1 (TOL) = Toluene-d8
SMC2 (BFB) = Bromofluorobenzene
SMC3 (DCE) = 1,2-Dichloroethane-d4
SMC4 (DEM) = Dibromofluoromethane

QC Limits (Water)

LDC #: 6395-A1
SDG #: EIA190286

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: g
2nd reviewer: /

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	10	10.3912	104	104	.
Bromofluorobenzene	1	10.0642	101	101	
1,2-Dichloroethane-d4	1	11.4593	115	115	✓
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

LDC #: 6395A1
SDG # E1A190286

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an

~~Y N N/A~~
Was a MS/MSD analyzed every 20 samples of each matrix?
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

卷之三

LDC #: 6A1
SDG #: 6A1 70286

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (\text{SSC} - \text{SC})/\text{SA}$
Where:
SSC = Spiked sample concentration
SA = Spike added

RPD = $|\text{MSC} - \text{MSDC}| * 2/(\text{MSC} + \text{MSDC})$
MSC = Matrix spike percent recovery

MS/MSD sample: N/A

Compound	Spike Added ()		Sample Concentration ()		Spiked Sample Concentration ()		Matrix Spike		Matrix Spike Duplicate		MS/MSD RPD	
	MS	MSD	MS	MSD	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene												
Trichloroethene												
Benzene												
Toluene												
Chlorobenzene												

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 6395A1
SDG #: 63A190286

VALIDATION FINDINGS WORKSHEET

Laboratory Control Samples (LCS)

Page: _____ of _____
Reviewer: _____
2nd Reviewer: _____

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a LCS required?
Were the LCS percent
N/A N/A N/A N/A

LDC #: 639541
SDG #: C 190286

Laboratory Control Sample Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * \frac{SSC}{SA}$

Where: $SSC = \text{Spiked sample concentration}$
 $SA = \text{Spike added}$

$$RPD = ||CS - CSD|| * 2 / ||CS + CSD||$$

LCS ID: 1025358 < c 5

LCS ID: 1025358205

$\text{C.S.} = \text{Aberrant control sample percent recovery}$

I CSD = Laboratory control samples diluted 1:100

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 6395A1
SDG #: C1A190286

VALIDATION FINDINGS WORKSHEET

Internal Standards

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

<u>Y</u>	<u>N</u>	<u>N/A</u>	Were all internal standard area counts within -50 to +100% of the associated calibration standard?
<u>Y</u>	<u>N</u>	<u>N/A</u>	Were the retention times of the internal standards within +/- 30 seconds of the associated calibration standard?

Page
Review
2nd Review

(FBZ) = Fluorabenzene

LDC #: 62-581
SDG #: E1. 90286

VALIDATION FORM NGS WORKSHEET Target Compound Identification

Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y	N	N/A	Were relative retention times (RRT's) within \pm 0.06 RRT units of the standard?
Y	N	N/A	Did compound spectra meet specified EPA "Functional Guidelines" criteria?
Y	N	N/A	Were chromatogram peaks verified and accounted for?

Comments:

LDC #: 6395A
SDG #: E1A190-86

VALIDATION FINDINGS WORKSHEET

Compound Quantitation and CRQLs

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Page: 1 of 1
Reviewer:
2nd Reviewer:

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

<input checked="" type="checkbox"/>	N	N/A	Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?
<input checked="" type="checkbox"/>	N	N/A	Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?

Comments: See sample calculation verification worksheet for recalculations

LDC #: 6395A1
SDG #: CIA190286

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: Q
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Compound results for Al reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(A_s)(I_s)(DF)}{(A_w)(RRF)(V_o)(\%S)}$$

- A_s = Area of the characteristic ion (EICP) for the compound to be measured
 A_w = Area of the characteristic ion (EICP) for the specific internal standard
 I_s = Amount of internal standard added in nanograms (ng)
RRF = Relative response factor of the calibration standard.
 V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df = Dilution factor.
 $\%S$ = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 1 E:

Conc. = (2500.5) (10) (1)

(936167) (0.25859) () ()

= 1.03 mg

#	Sample ID	Compound	Reported Concentration (μg)	Calculated Concentration (μg)	Acceptable (Y/N)
	1	H	0.94	0.94	X
	L		1.0	1.0	
	K		1.3	1.3	
	E		1.0	1.0	
	S		4.0	4.0	
	KK		0.72	0.72	
	$= (1.03 \times 5)$	K	3.3	3.3	
	CC		13	13	
	S		850	850	
	3	H	0.98	0.98	
	K		6.8	6.8	
	I		1.3	1.3	
	CC		8.7	8.7	
	S		73	73	
	KK		0.54	0.54	

LDC #: 639581
SDG #: 5 90286

VALIDATION FINNINGS WORKSHEET

Par _____
Review _____
2nd Reviewer: _____

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Was the system performance acceptable?

Professional judgement was applied to assess system performance as there are no specific criteria for system performance evaluation.

Comments:

LDC #: 6395A
SDG #: 24A190286

VALIDATION FINDINGS WORKSHEET

Overall Assessment of Data

Overall Assessment of Data

Page: 1 of 1
Reviewer: ✓
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "NA".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N/A Was the overall quality and usability of the data acceptable?

Comments:

LDC #: 639-EA1
SDG #: EPA190286

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: 9
2nd reviewer: /

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

N N/A
Y N N/A

Were field duplicate pairs identified in this SDG?

Were target compounds detected in the field duplicate pairs?

Compound	Concentration ()		RPD

Compound	Concentration ()		RPD

Compound	Concentration ()		RPD

Compound	Concentration ()		RPD

LDC #: 6395A1
SDG #: ZLA190286

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: g
2nd reviewer: /

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A

Were field blanks identified in this SDG?

Were target compounds detected in the field blanks?

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

Compound	Concentration Units ()

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing Redevelopment Corp., C-6 Site
Collection Date: January 29, 2001
LDC Report Date: May 11, 2001
Matrix: Water
Parameters: Volatiles
Validation Level: Tier 2
Laboratory: Severn Trent Laboratories
Sample Delivery Group (SDG): E1A290172

Sample Identification

TMW-6-W-012901
TMW-4-W-012901
TMW-4-D-012901
TMW-3-W-012901
TMW-9-W-012901
XMW-09-W-012901
TMW-1-W-012901

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodices were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
10/13/00	Acetone Acrolein Acrylonitrile tert-Butanol 2-Butanone Tetrahydrofuran 2-Chloroethylvinyl ether	0.01842 (≥ 0.05) 0.00569 (≥ 0.05) 0.01530 (≥ 0.05) 0.00585 (≥ 0.05) 0.03386 (≥ 0.05) 0.02200 (≥ 0.05) 0.01625 (≥ 0.05)	All samples in SDG E1A290172	J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/30/01	Iodomethane	25.5	All samples in SDG E1A290172	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
1/30/01	Acetone Acrolein Acrylonitrile tert-Butanol 2-Butanone Tetrahydrofuran 2-Chloroethylvinyl ether	0.01711 (≥ 0.05) 0.00520 (≥ 0.05) 0.01484 (≥ 0.05) 0.00488 (≥ 0.05) 0.02788 (≥ 0.05) 0.01881 (≥ 0.05) 0.01324 (≥ 0.05)	All samples in SDG E1A290172	J (all detects) R (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standard areas and retention times were not reviewed for Tier 2.

XI. Target Compound Identifications

Target compound identification (RT) data were not reviewed for Tier 2.

XII. Compound Quantitation and CRQLs

Compound quantitation and CRQLs were not reviewed for Tier 2.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds (TICs) were not reviewed for Tier 2.

XIV. System Performance

System performance data were not reviewed for Tier 2.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples TMW-4-W-012901 and TMW-4-D-012901 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	TMW-4-W-012901	TMW-4-D-012901	
1,2-Dichloroethane	12	25U	200
1,1-Dichloroethene	1100	1200	9
Chloroform	14	15	7
1,1-Dichloroethane	19	20	5
cis-1,2-Dichloroethene	29	31	7
trans-1,2-Dichloroethene	21	23	9
Trichloroethene	2000	2000	0

Compound	Concentration (ug/L)		RPD
	TMW-4-W-012901	TMW-4-D-012901	
Toluene	50U	15	200

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Redevelopment Corp., C-6 Site
Volatiles - Data Qualification Summary - SDG E1A290172

SDG	Sample	Compound	Flag	A or P	Reason
E1A290172	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901 TMW-1-W-012901	Acetone Acrolein Acrylonitrile tert-Butanol 2-Butanone Tetrahydrofuran 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
E1A290172	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901 TMW-1-W-012901	Iodomethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
E1A290172	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901 TMW-1-W-012901	Acetone Acrolein Acrylonitrile tert-Butanol 2-Butanone Tetrahydrofuran 2-Chloroethylvinyl ether	J (all detects) R (all non-detects)	A	Continuing calibration (RRF)

Boeing Redevelopment Corp., C-6 Site
Volatiles - Laboratory Blank Data Qualification Summary - SDG E1A290172

No Sample Data Qualified in this SDG

6395B

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-001 Work Order #....: DVAAX1C1 Matrix.....: WATER
 Date Sampled....: 01/29/01 08:40 Date Received...: 01/29/01 17:35 MS Run #.....: 1031234
 Prep Date.....: 01/31/01 Analysis Date...: 01/31/01
 Prep Batch #....: 1031488 Analysis Time...: 03:02
 Dilution Factor: 5
 Analyst ID.....: 015590 Instrument ID...: MSH
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	50	ug/L	15 R
Benzene	ND	5.0	ug/L	1.5
Bromobenzene	ND	5.0	ug/L	1.5
Bromochloromethane	ND	5.0	ug/L	1.5
2-Butanone	ND	25	ug/L	15 R
Bromoform	ND	5.0	ug/L	1.5
Bromomethane	ND	10	ug/L	5.0
Carbon tetrachloride	ND	2.5	ug/L	1.5
n-Butylbenzene	ND	5.0	ug/L	1.5
1,2-Dibromo-3-chloro-propane	ND	10	ug/L	3.0
sec-Butylbenzene	ND	5.0	ug/L	1.5
tert-Butylbenzene	ND	5.0	ug/L	1.0
Carbon disulfide	ND	5.0	ug/L	1.5
Chlorobenzene	ND	5.0	ug/L	1.5
Dibromochloromethane	ND	5.0	ug/L	1.5
Dichlorodifluoromethane	ND	5.0	ug/L	2.0
Bromodichloromethane	ND	5.0	ug/L	1.5
1,2-Dichloroethane	ND	2.5	ug/L	1.0
1,1-Dichloroethene	7.0	5.0	ug/L	1.0
Chloroethane	ND	10	ug/L	1.5
Chloroform	270	5.0	ug/L	1.0
Chloromethane	ND	10	ug/L	1.5
2,2-Dichloropropane	ND	5.0	ug/L	1.5
2-Chlorotoluene	ND	5.0	ug/L	1.5
4-Chlorotoluene	ND	5.0	ug/L	1.5
Trichlorofluoromethane	ND	10	ug/L	1.0
1,2-Dibromoethane	ND	5.0	ug/L	1.5
Iodomethane	ND	10	ug/L	5.0 UJ
1,2-Dichlorobenzene	ND	5.0	ug/L	1.0
1,3-Dichlorobenzene	ND	5.0	ug/L	1.0
1,4-Dichlorobenzene	ND	5.0	ug/L	1.5
1,1-Dichloroethane	ND	5.0	ug/L	1.0
cis-1,2-Dichloroethene	ND	5.0	ug/L	1.5
trans-1,2-Dichloroethene	ND	5.0	ug/L	1.0
1,2,4-Trimethylbenzene	ND	5.0	ug/L	1.0
Vinyl acetate	ND	2.5	ug/L	5.0

(Continued on next page)

A
6-4-07

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-001 Work Order #....: DVAAX1C1 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1-Dichloropropene	ND	5.0	ug/L	1.5
Ethylbenzene	ND	5.0	ug/L	1.0
Hexachlorobutadiene	ND	5.0	ug/L	1.5
2-Hexanone	ND	25	ug/L	10
Isopropylbenzene	ND	5.0	ug/L	1.0
p-Isopropyltoluene	ND	5.0	ug/L	1.0
Methylene chloride	ND	5.0	ug/L	1.0
4-Methyl-2-pentanone	ND	25	ug/L	10
Methyl tert-butyl ether	ND	5.0	ug/L	2.5
n-Propylbenzene	ND	5.0	ug/L	2.0
Styrene	ND	5.0	ug/L	1.5
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	1.5
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	1.5
Tetrachloroethene	ND	5.0	ug/L	3.5
Toluene	14	5.0	ug/L	1.5
1,2,3-Trichlorobenzene	ND	5.0	ug/L	2.0
,2,4-Trichloro- benzene	ND	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.0
1,1,2-Trichloroethane	ND	5.0	ug/L	1.5
Trichloroethene	81	5.0	ug/L	1.5
1,2,3-Trichloropropane	ND	5.0	ug/L	1.5
1,1,2-Trichlorotrifluoro- ethane	ND	5.0	ug/L	1.0
1,3,5-Trimethylbenzene	ND	5.0	ug/L	1.0
Vinyl chloride	ND	10	ug/L	1.5
Xylenes (total)	ND	5.0	ug/L	2.5
Tert-amyl methyl ether	ND	10	ug/L	2.5
Tert-butyl ethyl ether	ND	10	ug/L	2.5
t-Butanol	ND	120	ug/L	30 R
Isopropyl ether	ND	10	ug/L	2.5
Acrolein	ND	100	ug/L	60 R
Acrylonitrile	ND	100	ug/L	50
Tetrahydrofuran	ND	50	ug/L	10
2-Chloroethyl vinyl ether	ND	25	ug/L	10 ✓

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	101	(75 - 120)
1,2-Dichloroethane-d4	80	(65 - 130)
Toluene-d8	92	(80 - 130)

A
6-4-01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-002 Work Order #....: DVAA01C2 Matrix.....: WATER
 Date Sampled....: 01/29/01 10:00 Date Received...: 01/29/01 17:35 MS Run #.....: 1031234
 Prep Date.....: 01/31/01 Analysis Date...: 01/31/01
 Prep Batch #....: 1031488 Analysis Time...: 03:32
 Dilution Factor: 50
 Analyst ID.....: 015590 Instrument ID...: MSH
 Method.....: SW846 8260B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Acetone	ND	500	ug/L	150 R
Benzene	ND	50	ug/L	15
Bromobenzene	ND	50	ug/L	15
Bromochloromethane	ND	50	ug/L	15
2-Butanone	ND	250	ug/L	150 R
Bromoform	ND	50	ug/L	15
Bromomethane	ND	100	ug/L	50
Carbon tetrachloride	ND	25	ug/L	15
n-Butylbenzene	ND	50	ug/L	15
1,2-Dibromo-3-chloro-propane	ND	100	ug/L	30
sec-Butylbenzene	ND	50	ug/L	15
tert-Butylbenzene	ND	50	ug/L	10
Carbon disulfide	ND	50	ug/L	15
Chlorobenzene	ND	50	ug/L	15
Dibromochloromethane	ND	50	ug/L	15
Dichlorodifluoromethane	ND	50	ug/L	20
Bromodichloromethane	ND	50	ug/L	15
1,2-Dichloroethane	12 J	25	ug/L	10
1,1-Dichloroethene	1100	50	ug/L	10
Chloroethane	ND	100	ug/L	15
Chloroform	14 J	50	ug/L	10
Chloromethane	ND	100	ug/L	15
2,2-Dichloropropane	ND	50	ug/L	15
2-Chlorotoluene	ND	50	ug/L	15
4-Chlorotoluene	ND	50	ug/L	15
Trichlorofluoromethane	ND	100	ug/L	10
1,2-Dibromoethane	ND	50	ug/L	15
Iodomethane	ND	100	ug/L	50 uJ
1,2-Dichlorobenzene	ND	50	ug/L	10
1,3-Dichlorobenzene	ND	50	ug/L	10
1,4-Dichlorobenzene	ND	50	ug/L	15
1,1-Dichloroethane	19 J	50	ug/L	10
cis-1,2-Dichloroethene	29 J	50	ug/L	15
trans-1,2-Dichloroethene	21 J	50	ug/L	10
1,2,4-Trimethylbenzene	ND	50	ug/L	10
Vinyl acetate	ND	250	ug/L	50

(Continued on next page)

AJ
1/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-002 Work Order #....: DVAA01C2 Matrix.....: WATER

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
			MDL
1,1-Dichloropropene	ND	50	ug/L
Ethylbenzene	ND	50	ug/L
Hexachlorobutadiene	ND	50	ug/L
2-Hexanone	ND	250	ug/L
Isopropylbenzene	ND	50	ug/L
p-Isopropyltoluene	ND	50	ug/L
Methylene chloride	ND	50	ug/L
4-Methyl-2-pentanone	ND	250	ug/L
Methyl tert-butyl ether	ND	50	ug/L
n-Propylbenzene	ND	50	ug/L
Styrene	ND	50	ug/L
1,1,1,2-Tetrachloroethane	ND	50	ug/L
1,1,2,2-Tetrachloroethane	ND	50	ug/L
Tetrachloroethene	ND	50	ug/L
Toluene	ND	50	ug/L
1,2,3-Trichlorobenzene	ND	50	ug/L
1,2,4-Trichloro- benzene	ND	50	ug/L
1,1,1-Trichloroethane	ND	50	ug/L
1,1,2-Trichloroethane	ND	50	ug/L
Trichloroethene	2000	50	ug/L
1,2,3-Trichloropropane	ND	50	ug/L
1,3,5-Trimethylbenzene	ND	50	ug/L
Vinyl chloride	ND	25	ug/L
Xylenes (total)	ND	50	ug/L
Tert-amyl methyl ether	ND	100	ug/L
Tert-butyl ethyl ether	ND	100	ug/L
t-Butanol	ND	1200	ug/L
Isopropyl ether	ND	100	ug/L
Acrolein	ND	1000	ug/L
Acrylonitrile	ND	1000	ug/L
Tetrahydrofuran	ND	500	ug/L
2-Chloroethyl vinyl ether	ND	250	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
Bromofluorobenzene	95	(75 - 120)	
1,2-Dichloroethane-d4	91	(65 - 130)	
Toluene-d8	93	(80 - 130)	

NOTE (S) :

1 Estimated result. Result is less than RL.

AM 6/4/09

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-003 Work Order #....: DVAA11C2 Matrix.....: WATER
 Date Sampled....: 01/29/01 10:05 Date Received...: 01/29/01 17:35 MS Run #.....: 1031234
 Prep Date.....: 01/31/01 Analysis Date...: 01/31/01
 Prep Batch #....: 1031488 Analysis Time...: 04:01
 Dilution Factor: 50
 Analyst ID.....: 015590 Instrument ID...: MSH
 Method.....: SW846 8260B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Acetone	ND	500	ug/L	150 R
Benzene	ND	50	ug/L	15
Bromobenzene	ND	50	ug/L	15
Bromochloromethane	ND	50	ug/L	15
2-Butanone	ND	250	ug/L	150 R
Bromoform	ND	50	ug/L	15
Bromomethane	ND	100	ug/L	50
Carbon tetrachloride	ND	25	ug/L	15
n-Butylbenzene	ND	50	ug/L	15
1,2-Dibromo-3-chloro-propane	ND	100	ug/L	30
sec-Butylbenzene	ND	50	ug/L	15
tert-Butylbenzene	ND	50	ug/L	10
Carbon disulfide	ND	50	ug/L	15
Chlorobenzene	ND	50	ug/L	15
Dibromochloromethane	ND	50	ug/L	15
Dichlorodifluoromethane	ND	50	ug/L	20
Bromodichloromethane	ND	50	ug/L	15
1,2-Dichloroethane	ND	25	ug/L	10
1,1-Dichloroethene	1200	50	ug/L	10
Chloroethane	ND	100	ug/L	15
Chloroform	15 J	50	ug/L	10
Chloromethane	ND	100	ug/L	15
2,2-Dichloropropane	ND	50	ug/L	15
2-Chlorotoluene	ND	50	ug/L	15
4-Chlorotoluene	ND	50	ug/L	15
Trichlorofluoromethane	ND	100	ug/L	10
1,2-Dibromoethane	ND	50	ug/L	15
Iodomethane	ND	100	ug/L	50 UJ
1,2-Dichlorobenzene	ND	50	ug/L	10
1,3-Dichlorobenzene	ND	50	ug/L	10
1,4-Dichlorobenzene	ND	50	ug/L	15
1,1-Dichloroethane	20 J	50	ug/L	10
cis-1,2-Dichloroethene	31 J	50	ug/L	15
trans-1,2-Dichloroethene	23 J	50	ug/L	10
1,2,4-Trimethylbenzene	ND	50	ug/L	10
Vinyl acetate	ND	250	ug/L	50

(Continued on next page)

AP
6.4.07

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-003 Work Order #....: DVAA11C2 Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1-Dichloropropene	ND	50	ug/L	15
Ethylbenzene	ND	50	ug/L	10
Hexachlorobutadiene	ND	50	ug/L	15
2-Hexanone	ND	250	ug/L	100
Isopropylbenzene	ND	50	ug/L	10
p-Isopropyltoluene	ND	50	ug/L	10
Methylene chloride	ND	50	ug/L	10
4-Methyl-2-pentanone	ND	250	ug/L	100
Methyl tert-butyl ether	ND	50	ug/L	25
n-Propylbenzene	ND	50	ug/L	20
Styrene	ND	50	ug/L	15
1,1,1,2-Tetrachloroethane	ND	50	ug/L	15
1,1,2,2-Tetrachloroethane	ND	50	ug/L	15
Tetrachloroethene	ND	50	ug/L	35
Toluene	15 J	50	ug/L	15
1,2,3-Trichlorobenzene	ND	50	ug/L	20
1,2,4-Trichloro- benzene	ND	50	ug/L	15
1,1,1-Trichloroethane	ND	50	ug/L	10
1,1,2-Trichloroethane	ND	50	ug/L	15
Trichloroethene	2000	50	ug/L	15
1,2,3-Trichloropropane	ND	50	ug/L	15
1,3,5-Trimethylbenzene	ND	50	ug/L	10
Vinyl chloride	ND	25	ug/L	15
Xylenes (total)	ND	50	ug/L	25
Tert-amyl methyl ether	ND	100	ug/L	25
Tert-butyl ethyl ether	ND	100	ug/L	25
t-Butanol	ND	1200	ug/L	300 R
Isopropyl ether	ND	100	ug/L	25
Acrolein	ND	1000	ug/L	600 R
Acrylonitrile	ND	1000	ug/L	500
Tetrahydrofuran	ND	500	ug/L	100
2-Chloroethyl vinyl ether	ND	250	ug/L	100

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY</u>
		<u>LIMITS</u>
Bromofluorobenzene	90	(75 - 120)
1,2-Dichloroethane-d4	98	(65 - 130)
Toluene-d8	93	(80 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

A
6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-004 Work Order #....: DVAA31CC Matrix.....: WATER
 Date Sampled....: 01/29/01 11:25 Date Received...: 01/29/01 17:35 MS Run #.....: 1031234
 Prep Date.....: 01/31/01 Analysis Date...: 01/31/01
 Prep Batch #....: 1031488 Analysis Time...: 04:31
 Dilution Factor: 50
 Analyst ID.....: 015590 Instrument ID...: MSH
 Method.....: SW846 8260B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Acetone	ND	500	ug/L	150 R
Benzene	ND	50	ug/L	15
Bromobenzene	ND	50	ug/L	15
Bromochloromethane	ND	50	ug/L	15
2-Butanone	ND	250	ug/L	150 R
Bromoform	ND	50	ug/L	15
Bromomethane	ND	100	ug/L	50
Carbon tetrachloride	ND	25	ug/L	15
n-Butylbenzene	ND	50	ug/L	15
1,2-Dibromo-3-chloro-propane	ND	100	ug/L	30
sec-Butylbenzene	ND	50	ug/L	15
tert-Butylbenzene	ND	50	ug/L	10
Carbon disulfide	ND	50	ug/L	15
Chlorobenzene	ND	50	ug/L	15
Dibromochloromethane	ND	50	ug/L	15
Dichlorodifluoromethane	ND	50	ug/L	20
Bromodichloromethane	ND	50	ug/L	15
1,2-Dichloroethane	ND	25	ug/L	10
1,1-Dichloroethene	76	50	ug/L	10
Chloroethane	ND	100	ug/L	15
Chloroform	ND	50	ug/L	10
Chloromethane	ND	100	ug/L	15
2,2-Dichloropropane	ND	50	ug/L	15
2-Chlorotoluene	ND	50	ug/L	15
4-Chlorotoluene	ND	50	ug/L	15
Trichlorofluoromethane	ND	100	ug/L	10
1,2-Dibromoethane	ND	50	ug/L	15
Iodomethane	ND	100	ug/L	50 UJ
1,2-Dichlorobenzene	ND	50	ug/L	10
1,3-Dichlorobenzene	ND	50	ug/L	10
1,4-Dichlorobenzene	ND	50	ug/L	15
1,1-Dichloroethane	ND	50	ug/L	10
cis-1,2-Dichloroethene	ND	50	ug/L	15
trans-1,2-Dichloroethene	ND	50	ug/L	10
1,2,4-Trimethylbenzene	ND	50	ug/L	10
Vinyl acetate	ND	25	ug/L	50

(Continued on next page)

An
6/10

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

GC/MS Volatiles

Lot-Sample #...: E1A290172-004 Work Order #...: DVAA31CC Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1-Dichloropropene	ND	50	ug/L	15
Ethylbenzene	ND	50	ug/L	10
Hexachlorobutadiene	ND	50	ug/L	15
2-Hexanone	ND	250	ug/L	100
Isopropylbenzene	ND	50	ug/L	10
p-Isopropyltoluene	ND	50	ug/L	10
Methylene chloride	ND	50	ug/L	10
4-Methyl-2-pentanone	ND	250	ug/L	100
Methyl tert-butyl ether	ND	50	ug/L	25
n-Propylbenzene	ND	50	ug/L	20
Styrene	ND	50	ug/L	15
1,1,1,2-Tetrachloroethane	ND	50	ug/L	15
1,1,2,2-Tetrachloroethane	ND	50	ug/L	15
Tetrachloroethene	ND	50	ug/L	35
Toluene	20 J	50	ug/L	15
1,2,3-Trichlorobenzene	ND	50	ug/L	20
1,2,4-Trichloro- benzene	ND	50	ug/L	15
1,1,1-Trichloroethane	ND	50	ug/L	10
1,1,2-Trichloroethane	ND	50	ug/L	15
Trichloroethene	2200	50	ug/L	15
1,2,3-Trichloropropane	ND	50	ug/L	15
1,1,2-Trichlorotrifluoro- ethane	ND	50	ug/L	10
1,3,5-Trimethylbenzene	ND	50	ug/L	10
Vinyl chloride	ND	100	ug/L	15
Xylenes (total)	ND	50	ug/L	25
Tert-amyl methyl ether	ND	100	ug/L	25
Tert-butyl ethyl ether	ND	100	ug/L	25
t-Butanol	ND	1200	ug/L	300 R
Isopropyl ether	ND	100	ug/L	25
Acrolein	ND	1000	ug/L	600 R
Acrylonitrile	ND	1000	ug/L	500
Tetrahydrofuran	ND	500	ug/L	100
2-Chloroethyl vinyl ether	ND	250	ug/L	100

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 120)
1,2-Dichloroethane-d4	104	(65 - 130)
Toluene-d8	94	(80 - 130)

E(S):

J Estimated result. Result is less than RL.

A
6/1/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-005 Work Order #....: DVAA51CC Matrix.....: WATER
 Date Sampled...: 01/29/01 12:25 Date Received...: 01/29/01 17:35 MS Run #.....: 1031234
 Prep Date.....: 01/31/01 Analysis Date...: 01/31/01
 Prep Batch #....: 1031488 Analysis Time...: 05:01
 Dilution Factor: 12.5
 Analyst ID.....: 015590 Instrument ID...: MSH
 Method.....: SW846 8260B

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	MDL
Acetone	ND	120	ug/L	38 R
Benzene	ND	12	ug/L	3.8
Bromobenzene	ND	12	ug/L	3.8
Bromochloromethane	ND	12	ug/L	3.8
2-Butanone	ND	62	ug/L	38 R
Bromoform	ND	12	ug/L	3.8
Bromomethane	ND	25	ug/L	12
Carbon tetrachloride	ND	6.2	ug/L	3.8
n-Butylbenzene	ND	12	ug/L	3.8
1,2-Dibromo-3-chloro-propane	ND	25	ug/L	7.5
sec-Butylbenzene	ND	12	ug/L	3.8
tert-Butylbenzene	ND	12	ug/L	2.5
Carbon disulfide	ND	12	ug/L	3.8
Chlorobenzene	ND	12	ug/L	3.8
Dibromochloromethane	ND	12	ug/L	3.8
Dichlorodifluoromethane	ND	12	ug/L	5.0
Bromodichloromethane	ND	12	ug/L	3.8
1,2-Dichloroethane	ND	6.2	ug/L	2.5
1,1-Dichloroethene	170	12	ug/L	2.5
Chloroethane	ND	25	ug/L	3.8
Chloroform	ND	12	ug/L	2.5
Chloromethane	ND	25	ug/L	3.8
2,2-Dichloropropane	ND	12	ug/L	3.8
2-Chlorotoluene	ND	12	ug/L	3.8
4-Chlorotoluene	ND	12	ug/L	3.8
Trichlorofluoromethane	ND	25	ug/L	2.5
1,2-Dibromoethane	ND	12	ug/L	3.8
Iodomethane	ND	25	ug/L	12 WJ
1,2-Dichlorobenzene	ND	12	ug/L	2.5
1,3-Dichlorobenzene	ND	12	ug/L	2.5
1,4-Dichlorobenzene	ND	12	ug/L	3.8
1,1-Dichloroethane	ND	12	ug/L	2.5
cis-1,2-Dichloroethene	ND	12	ug/L	3.8
trans-1,2-Dichloroethene	ND	12	ug/L	2.5
1,2,4-Trimethylbenzene	ND	12	ug/L	2.5
Vinyl acetate	ND	6.2	ug/L	12

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An
6/1/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-005 Work Order #....: DVAA51CC Matrix.....: WATER

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1-Dichloropropene	ND	12	ug/L	3.8
Ethylbenzene	ND	12	ug/L	2.5
Hexachlorobutadiene	ND	12	ug/L	3.8
2-Hexanone	ND	62	ug/L	25
Isopropylbenzene	ND	12	ug/L	2.5
p-Isopropyltoluene	ND	12	ug/L	2.5
Methylene chloride	ND	12	ug/L	2.5
4-Methyl-2-pentanone	ND	62	ug/L	25
Methyl tert-butyl ether	ND	12	ug/L	6.2
n-Propylbenzene	ND	12	ug/L	5.0
Styrene	ND	12	ug/L	3.8
1,1,1,2-Tetrachloroethane	ND	12	ug/L	3.8
1,1,2,2-Tetrachloroethane	ND	12	ug/L	3.8
Tetrachloroethene	ND	12	ug/L	8.8
Toluene	19	12	ug/L	3.8
1,2,3-Trichlorobenzene	ND	12	ug/L	5.0
1,2,4-Trichloro- benzene	ND	12	ug/L	3.8
1,1,1-Trichloroethane	ND	12	ug/L	2.5
1,1,2-Trichloroethane	ND	12	ug/L	3.8
Trichloroethene	850	12	ug/L	3.8
1,2,3-Trichloropropane	ND	12	ug/L	3.8
1,1,2-Trichlorotrifluoro- ethane	ND	12	ug/L	2.5
1,3,5-Trimethylbenzene	ND	12	ug/L	2.5
Vinyl chloride	ND	25	ug/L	3.8
Xylenes (total)	ND	12	ug/L	6.2
Tert-amyl methyl ether	ND	25	ug/L	6.2
Tert-butyl ethyl ether	ND	25	ug/L	6.2
t-Butanol	ND	310	ug/L	75 R
Isopropyl ether	ND	25	ug/L	6.2
Acrolein	ND	250	ug/L	150 R
Acrylonitrile	ND	250	ug/L	120
Tetrahydrofuran	ND	120	ug/L	25
2-Chloroethyl vinyl ether	ND	62	ug/L	25

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
		(75 - 120)	(80 - 130)
Bromofluorobenzene	94		
1,2-Dichloroethane-d4	103		
Toluene-d8	93		

*A
6/4/21*

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-006 Work Order #....: DVAA71CE Matrix.....: WATER
 Date Sampled....: 01/29/01 14:10 Date Received...: 01/29/01 17:35 MS. Run #.....: 1031234
 Prep Date.....: 01/31/01 Analysis Date...: 01/31/01
 Prep Batch #....: 1031488 Analysis Time...: 05:31
 Dilution Factor: 50
 Analyst ID.....: 015590 Instrument ID...: MSH
 Method.....: SW846 8260B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Acetone	ND	500	ug/L	150 R
Benzene	ND	50	ug/L	15
Bromobenzene	ND	50	ug/L	15
Bromochloromethane	ND	50	ug/L	15
2-Butanone	ND	250	ug/L	150 R
Bromoform	ND	50	ug/L	15
Bromomethane	ND	100	ug/L	50
Carbon tetrachloride	ND	25	ug/L	15
n-Butylbenzene	ND	50	ug/L	15
1,2-Dibromo-3-chloro-propane	ND	100	ug/L	30
sec-Butylbenzene	ND	50	ug/L	15
tert-Butylbenzene	ND	50	ug/L	10
Carbon disulfide	40 J	50	ug/L	15
Chlorobenzene	160	50	ug/L	15
Dibromochloromethane	ND	50	ug/L	15
Dichlorodifluoromethane	ND	50	ug/L	20
Bromodichloromethane	ND	50	ug/L	15
1,2-Dichloroethane	ND	25	ug/L	10
1,1-Dichloroethene	ND	50	ug/L	10
Chloroethane	ND	100	ug/L	15
Chloroform	2400	50	ug/L	10
Chloromethane	ND	100	ug/L	15
2,2-Dichloropropane	ND	50	ug/L	15
2-Chlorotoluene	ND	50	ug/L	15
4-Chlorotoluene	ND	50	ug/L	15
Trichlorofluoromethane	ND	100	ug/L	10
1,2-Dibromoethane	ND	50	ug/L	15
Iodomethane	ND	100	ug/L	50 UJ
1,2-Dichlorobenzene	ND	50	ug/L	10
1,3-Dichlorobenzene	ND	50	ug/L	10
1,4-Dichlorobenzene	ND	50	ug/L	15
1,1-Dichloroethane	ND	50	ug/L	10
cis-1,2-Dichloroethene	ND	50	ug/L	15
trans-1,2-Dichloroethene	ND	50	ug/L	10
1,2,4-Trimethylbenzene	ND	50	ug/L	10
Vinyl acetate	ND	25	ug/L	50

(Continued on next page)

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-006 Work Order #....: DVAA71CE Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1-Dichloropropene	ND	50	ug/L	15
Ethylbenzene	ND	50	ug/L	10
Hexachlorobutadiene	ND	50	ug/L	15
2-Hexanone	ND	250	ug/L	100
Isopropylbenzene	ND	50	ug/L	10
p-Isopropyltoluene	ND	50	ug/L	10
Methylene chloride	ND	50	ug/L	10
4-Methyl-2-pentanone	ND	250	ug/L	100
Methyl tert-butyl ether	ND	50	ug/L	25
n-Propylbenzene	ND	50	ug/L	20
Styrene	ND	50	ug/L	15
1,1,1,2-Tetrachloroethane	ND	50	ug/L	15
1,1,2,2-Tetrachloroethane	ND	50	ug/L	15
Tetrachloroethene	59	50	ug/L	35
Toluene	ND	50	ug/L	15
1,2,3-Trichlorobenzene	ND	50	ug/L	20
1,2,4-Trichloro- benzene	ND	50	ug/L	15
1,1,1-Trichloroethane	ND	50	ug/L	10
1,1,2-Trichloroethane	ND	50	ug/L	15
Trichloroethene	ND	50	ug/L	15
1,2,3-Trichloropropane	ND	50	ug/L	15
1,1,2-Trichlorotrifluoro- ethane	ND	50	ug/L	10
1,3,5-Trimethylbenzene	ND	50	ug/L	10
Vinyl chloride	ND	100	ug/L	15
Xylenes (total)	ND	50	ug/L	25
Tert-amyl methyl ether	ND	100	ug/L	25
Tert-butyl ethyl ether	ND	100	ug/L	25
t-Butanol	ND	1200	ug/L	300 R
Isopropyl ether	ND	100	ug/L	25
Acrolein	ND	1000	ug/L	600 R
Acrylonitrile	ND	1000	ug/L	500
Tetrahydrofuran	ND	500	ug/L	100
2-Chloroethyl vinyl ether	ND	250	ug/L	100

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	85	(75 - 120)
1,2-Dichloroethane-d4	96	(65 - 130)
Toluene-d8	90	(80 - 130)

ER(S):

J Estimated result. Result is less than RL.

AP
6/4/51

TAIT ENVIRONMENTAL

Client Sample ID: TMW_1_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-009 Work Order #....: DVACE1AX Matrix.....: WATER
 Date Sampled....: 01/29/01 11:43 Date Received...: 01/29/01 17:35 MS Run #.....: 1031234
 Prep Date.....: 01/31/01 Analysis Date...: 01/31/01
 Prep Batch #....: 1031488 Analysis Time...: 06:01
 Dilution Factor: 5
 Analyst ID.....: 015590 Instrument ID...: MSH
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	50	ug/L	15 R
Benzene	ND	5.0	ug/L	1.5
Bromobenzene	ND	5.0	ug/L	1.5
Bromochloromethane	ND	5.0	ug/L	1.5
2-Butanone	ND	25	ug/L	15 R
Bromoform	ND	5.0	ug/L	1.5
Bromomethane	ND	10	ug/L	5.0
Carbon tetrachloride	ND	2.5	ug/L	1.5
n-Butylbenzene	ND	5.0	ug/L	1.5
1,2-Dibromo-3-chloro-propane	ND	10	ug/L	3.0
sec-Butylbenzene	ND	5.0	ug/L	1.5
tert-Butylbenzene	ND	5.0	ug/L	1.0
Carbon disulfide	ND	5.0	ug/L	1.5
Chlorobenzene	ND	5.0	ug/L	1.5
Dichlorodifluoromethane	ND	5.0	ug/L	2.0
Dibromochloromethane	ND	5.0	ug/L	1.5
Bromodichloromethane	ND	5.0	ug/L	1.5
1,2-Dichloroethane	ND	2.5	ug/L	1.0
1,1-Dichloroethene	140	5.0	ug/L	1.0
Chloroethane	ND	10	ug/L	1.5
Chloroform	4.3 J	5.0	ug/L	1.0
Chloromethane	ND	10	ug/L	1.5
2,2-Dichloropropane	ND	5.0	ug/L	1.5
2-Chlorotoluene	ND	5.0	ug/L	1.5
4-Chlorotoluene	ND	5.0	ug/L	1.5
Trichlorofluoromethane	26	10	ug/L	1.0
1,2-Dibromoethane	ND	5.0	ug/L	1.5
Iodomethane	ND	10	ug/L	5.0 UJ
1,2-Dichlorobenzene	ND	5.0	ug/L	1.0
1,3-Dichlorobenzene	ND	5.0	ug/L	1.0
1,4-Dichlorobenzene	ND	5.0	ug/L	1.5
1,1-Dichloroethane	ND	5.0	ug/L	1.0
cis-1,2-Dichloroethene	ND	5.0	ug/L	1.5
trans-1,2-Dichloroethene	ND	5.0	ug/L	1.0
1,2,4-Trimethylbenzene	ND	5.0	ug/L	1.0
Vinyl acetate	ND	2.5	ug/L	5.0

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A
6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_1_W_012901

GC/MS Volatiles

Lot-Sample #....: E1A290172-009 Work Order #....: DVACE1AX Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1-Dichloropropene	ND	5.0	ug/L	1.5
Ethylbenzene	ND	5.0	ug/L	1.0
Hexachlorobutadiene	ND	5.0	ug/L	1.5
2-Hexanone	ND	25	ug/L	10
Isopropylbenzene	ND	5.0	ug/L	1.0
p-Isopropyltoluene	ND	5.0	ug/L	1.0
Methylene chloride	ND	5.0	ug/L	1.0
4-Methyl-2-pentanone	ND	25	ug/L	10
Methyl tert-butyl ether	ND	5.0	ug/L	2.5
n-Propylbenzene	ND	5.0	ug/L	2.0
Styrene	ND	5.0	ug/L	1.5
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	1.5
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	1.5
Tetrachloroethene	ND	5.0	ug/L	3.5
Toluene	5.3	5.0	ug/L	1.5
1,2,3-Trichlorobenzene	ND	5.0	ug/L	2.0
1,2,4-Trichloro- benzene	ND	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.0
1,1,2-Trichloroethane	ND	5.0	ug/L	1.5
Trichloroethene	380	5.0	ug/L	1.5
1,2,3-Trichloropropane	ND	5.0	ug/L	1.5
1,1,2-Trichlorotrifluoro- ethane	1.2 J	5.0	ug/L	1.0
1,3,5-Trimethylbenzene	ND	5.0	ug/L	1.0
Vinyl chloride	ND	10	ug/L	1.5
Xylenes (total)	ND	5.0	ug/L	2.5
Tert-amyl methyl ether	ND	10	ug/L	2.5
Tert-butyl ethyl ether	ND	10	ug/L	2.5
t-Butanol	ND	120	ug/L	30 R
Isopropyl ether	ND	10	ug/L	2.5
Acrolein	ND	100	ug/L	60 R
Acrylonitrile	ND	100	ug/L	50
Tetrahydrofuran	ND	50	ug/L	10
2-Chloroethyl vinyl ether	ND	25	ug/L	10

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	87	(75 - 120)
1,2-Dichloroethane-d4	101	(65 - 130)
Toluene-d8	91	(80 - 130)

ME(S):

1 Estimated result. Result is less than RL.

A
6/4/01

LDC #: 6395B1
SDG #: E1A290172
Laboratory: Severn Trent Laboratories

VALIDATION COMPLETENESS WORKSHEET

X Tier 2

Date: 5/8/01

Page: 1 of 1

Reviewer: o

2nd Reviewer: L

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>1/29/01</u>
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	N	
IV.	Continuing calibration	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	<u>E1A290161-003</u>
VIII.	Laboratory control samples	A	<u>LCS</u>
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	<u>D = Z + 3</u>
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

M1 ~~M2~~ M3

1	TMW-6-W-012901	11		21		31	
2	TMW-4-W-012901	12		22		32	
3	TMW-4-D-012901	13		23		33	
4	TMW-3-W-012901	14		24		34	
5	TMW-9-W-012901	15		25		35	
6	XMW-09-W-012901	16		26		36	
7	TMW-1-W-012901	17		27		37	
8	<u>1031488BK</u>	18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMP IND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	Q. 1,2-Dichloropropane**	GG. Xylenes, total	WW. Bromobenzene	MMM. Naphthalene
B. Bromomethane	R. cis-1,3-Dichloropropene	HH. Vinyl acetate	XX. 1,2,3-Trichloropropane	NNN. 1,2,3-Trichlorobenzene
C. Vinyl chloride**	S. Trichloroethene	II. 2-Chloroethylvinyl ether	YY. n-Propylbenzene	OOO. 1,3,5-Trichlorobenzene
D. Chloroethane	T. Dibromochloromethane	JJ. Dichlorodifluoromethane	ZZ. 2-Chlorotoluene	PPP. trans-1,2-Dichloroethene
E. Methylene chloride	U. 1,1,2-Trichloroethane	KK. Trichlorofluoromethane	AAA. 1,3,5-Trimethylbenzene	QQQ. cis-1,2-Dichloroethene
F. Acetone	V. Benzene	L.L. Methyl-tert-butyl ether	BBB. 4-Chlorotoluene	RRR. m,p-Xylenes
G. Carbon disulfide	W. trans-1,3-Dichloropropene	MM. 1,2-Dibromo-3-chloropropane	CCC. tert-Butylbenzene	SSS. o-Xylene
H. 1,1-Dichloroethene**	X. Bromoform*	NN. Diethyl ether	DDD. 1,2,4-Trimethylbenzene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane
I. 1,1-Dichloroethane*	Y. 4-Methyl-2-pentanone	OO. 2,2-Dichloropropane	EEE. sec-Butylbenzene	UUU. Benzyl chloride
J. 1,2-Dichloroethene, total	Z. 2-Hexanone	PP. Bromochloromethane	FFF. 1,3-Dichlorobenzene	WW. 4-Ethyltoluene
K. Chloroform**	AA. Tetrachloroethene	QQ. 1,1-Dichloropropane	GGG. p-Isopropyltoluene	WWW. Ethanol
L. 1,2-Dichloroethane	BB. 1,1,2,2-Tetrachloroethane*	RR. Dibromomethane	HHH. 1,4-Dichlorobenzene	XXX. Ethyl ether
M. 2-Butanone	CC. Toluene**	SS. 1,3-Dichloropropane	III. n-Butylbenzene	YYY. tert-Butanot + -Butane /
N. 1,1,1-Trichloroethane	DD. Chlorobenzene*	TT. 1,2-Dibromoethane	JJJ. 1,2-Dichlorobenzene	ZZZ. Acrolein
O. Carbon tetrachloride	EE. Ethylbenzene**	UU. 1,1,1,2-Tetrachloroethane	KKK. 1,2,4-Trichlorobenzene	AAA. Acrylonitrile
P. Bromodichloromethane	FF. Styrene	W. Isopropylbenzene	LL. Hexachlorobutadiene	BBBBB. Tetrahydrofuran

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

Notes:

LDC #: 6395B1
SDG #: EIA290IT2

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: Q
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A
Y N N/A

Were field duplicate pairs identified in this SDG?
Were target compounds detected in the field duplicate pairs?

Compound	Concentration ($\mu\text{g}/\text{L}$)		RPD
	2	3	
L	12	251	200
H	1100	1200	9
K	14	15	7
F	19	20	5
RRR	29	31	7
PPP	21	23	9

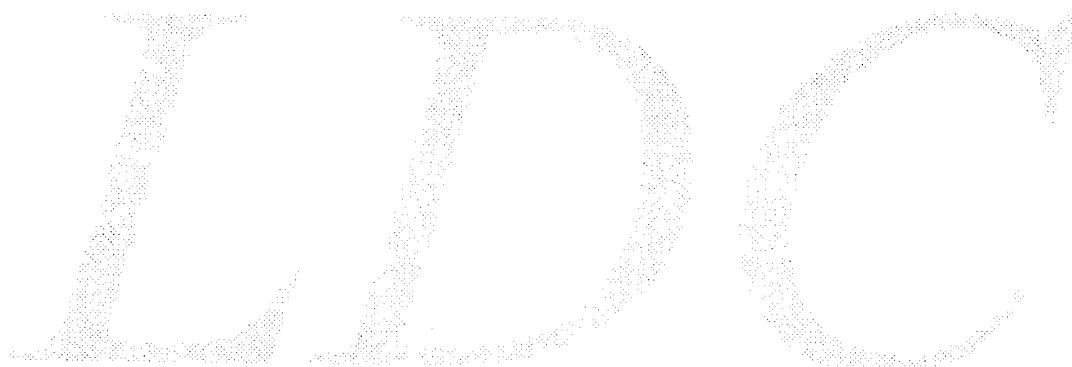
Compound	Concentration ()		RPD
	1	2	
S	2000	2000	0
CC	501	15	200

Compound	Concentration ()		RPD
	1	2	

Compound	Concentration ()		RPD
	1	2	

**Boeing C-6 Site
Data Validation Reports
LDC# 6395**

Metals



**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing Redevelopment Corp., C-6 Site

Collection Date: January 19, 2001

LDC Report Date: May 11, 2001

Matrix: Water

Parameters: Metals

Validation Level: Tier 1

Laboratory: Severn Trent Laboratories

Sample Delivery Group (SDG): E1A190286

Sample Identification

BL-2-W-011901

TMW-10-W-011901

WCC-95-W-011901

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010 and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG E1A190286	All TAL metals	No MS associated with these samples.	MS required.	None	P

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG E1A190286	All TAL metals	No DUP analysis associated with these samples.	DUP analysis required.	None	P

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standard (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

**Boeing Redevelopment Corp., C-6 Site
Metals - Data Qualification Summary - SDG E1A190286**

SDG	Sample	Analyte	Flag	A or P	Reason
E1A190286	BL-2-W-011901 TMW-10-W-011901 WCC-95-W-011901	All TAL metals	None	P	Matrix spike/Matrix spike duplicates
E1A190286	BL-2-W-011901 TMW-10-W-011901 WCC-95-W-011901	All TAL metals	None	P	Duplicate analysis

**Boeing Redevelopment Corp., C-6 Site
Metals - Laboratory Blank Data Qualification Summary - SDG E1A190286**

No Sample Data Qualified in this SDG

TAIT ENVIRONMENTAL

Client Sample ID: BL-2-W-011901

TOTAL Metals

Lot-Sample #....: E1A190286-001
 Date Sampled....: 01/19/01 10:40 Date Received...: 01/19/01 16:30 Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....:	1019347					
Mercury	ND	0.00020	mg/L	SW846 7470A	01/23-01/24/01 DTXALLAX	
		Dilution Factor: 1		Analysis Time...: 11:25	Analyst ID.....: 021088	
		Instrument ID...: M04		MS Run #.....: 1024179	MDL.....: 0.00010	
Prep Batch #....:	10222419					
Aluminum	61.7	0.20	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAD	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.080	
Arsenic	0.066	0.010	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAE	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0040	
Antimony	0.0063 B	0.060	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAF	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0020	
Barium	0.43	0.020	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAG	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAH	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.00050	
Chromium	0.18	0.010	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAJ	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0010	
Beryllium	0.0018 B	0.0050	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAK	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.00050	
Lead	0.019	0.0050	mg/L	SW846 6010B	01/22-01/24/01 DTXALLAL	
		Dilution Factor: 1		Analysis Time...: 00:03	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0020	

(Continued on next page)

0 17

A
6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: BL-2-W-011901

TOTAL Metals

Lot-Sample #....: E1A190286-001

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Selenium	ND	0.0050	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAM
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0040
Silver	ND	0.010	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAN
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0010
Cobalt	0.032 B	0.050	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAP
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0010
Copper	0.077	0.025	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAQ
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0040
Molybdenum	0.0047 B	0.040	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAR
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0030
Nickel	0.082	0.040	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAT
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0030
Thallium	ND	0.010	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAU
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0050
Vanadium	0.17	0.050	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAV
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0010
Zinc	0.32	0.020	mg/L		SW846 6010B	01/22-01/24/01	DTXALLAW
		Dilution Factor: 1			Analysis Time...: 00:03		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.010

NOTE(S):

B Estimated result. Result is less than RL.

0 13

An
b-04-U

TAIT ENVIRONMENTAL

Client Sample ID: TMW-10-W-011901

TOTAL Metals

Lot-Sample #....:	E1A190286-002			Matrix.....:	WATER	
Date Sampled....:	01/19/01 11:40			Date Received...:	01/19/01 16:30	
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....:	1019347					
Mercury	0.00034	0.00020	mg/L	SW846 7470A	01/23-01/24/01	DTXAQ1AX
		Dilution Factor: 1		Analysis Time...:	11:27	Analyst ID.....: 021088
		Instrument ID...: M04		MS Run #.....:	1024179	MDL.....: 0.00010
Prep Batch #....:	1022419					
Aluminum	47.9	0.20	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AD
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031199
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.080
Arsenic	0.017	0.010	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AE
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.0040
Antimony	0.0056 B	0.060	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AF
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.0020
Barium	0.46	0.020	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AG
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.0010
Cadmium	ND	0.0050	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AH
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.00050
Chromium	0.17	0.010	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AJ
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.0010
Beryllium	0.0015 B	0.0050	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AK
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.00050
Lead	0.052	0.0050	mg/L	SW846 6010B	01/22-01/24/01	DTXAQ1AL
		Dilution Factor: 1		Analysis Time...:	00:11	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....:	1022230	MDL.....: 0.0020

(Continued on next page)

0 19

J
6-04(-0)

TAIT ENVIRONMENTAL

Client Sample ID: TMW-10-W-011901

TOTAL Metals

Lot-Sample #...: E1A190286-002

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS				
Selenium	ND	0.0050	mg/L		SW846 6010B	01/22-01/24/01	DTXAQ1AM
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0040
Silver	ND	0.010	mg/L		SW846 6010B	01/22-01/24/01	DTXAQ1AN
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0010
Cobalt	0.030 B	0.050	mg/L		SW846 6010B	01/22-01/24/01	DTXAQ1AP
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0010
Copper	0.12	0.025	mg/L		SW846 6010B	01/22-01/24/01	DTXAQLAQ
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0040
Molybdenum	0.011 B	0.040	mg/L		SW846 6010B	01/22-01/24/01	DTXAQLAR
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0030
Nickel	0.083	0.040	mg/L		SW846 6010B	01/22-01/24/01	DTXAQLAT
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0030
Thallium	ND	0.010	mg/L		SW846 6010B	01/22-01/24/01	DTXAQ1AU
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0050
Vanadium	0.14	0.050	mg/L		SW846 6010B	01/22-01/24/01	DTXAQ1AV
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.0010
Zinc	0.26	0.020	mg/L		SW846 6010B	01/22-01/24/01	DTXAQ1AW
		Dilution Factor: 1			Analysis Time...: 00:11		Analyst ID.....: 0031190
		Instrument ID...: M01			MS Run #.....: 1022230		MDL.....: 0.010

NOTE(S):

B Estimated result. Result is less than RL.

0 20

Ar
6-4-01

TAIT ENVIRONMENTAL

Client Sample ID: WCC-95-W-011901

TOTAL Metals

Lot-Sample #....:	E1A190286-003			Matrix.....:	WATER
Date Sampled....:	01/19/01 00:55			Date Received...:	01/19/01 16:30
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE
Prep Batch #....: 1019347					
Mercury	ND	0.00020	mg/L	SW846 7470A	01/23-01/24/01 DTXAT1AX
		Dilution Factor: 1		Analysis Time...: 11:29	Analyst ID.....: 021088
		Instrument ID...: M04		MS Run #.....: 1024179	MDL.....: 0.00010
Prep Batch #....: 1022419					
Aluminum	2.1	0.20	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AD
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031199
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.080
Arsenic	ND	0.010	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AE
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0040
Antimony	ND	0.060	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AF
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0020
Barium	0.24	0.020	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AG
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0010
Cadmium	0.0013 B	0.0050	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AH
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.00050
Chromium	0.026	0.010	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AJ
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0010
Beryllium	ND	0.0050	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AK
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.00050
Lead	0.021	0.0050	mg/L	SW846 6010B	01/22-01/24/01 DTXAT1AL
		Dilution Factor: 1		Analysis Time...: 00:19	Analyst ID.....: 0031190
		Instrument ID...: M01		MS Run #.....: 1022230	MDL.....: 0.0020

(Continued on next page)

0 21

A
6-4-01

TAIT ENVIRONMENTAL

Client Sample ID: WCC-95-W-011901

TOTAL Metals

Lot-Sample #....: ElA190286-003

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Selenium	ND	0.0050	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AM
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0040	
Silver	ND	0.010	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AN
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AP
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0010	
Copper	0.010 B	0.025	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AQ
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AR
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0030	
Nickel	0.0054 B	0.040	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AT
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AU
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0050	
Vanadium	0.0076 B	0.050	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AV
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.0010	
Zinc	0.087	0.020	mg/L		SW846 6010B	01/22-01/24/01	DTXAT1AW
		Dilution Factor: 1			Analysis Time...: 00:19	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1022230	MDL.....: 0.010	

NOTE(S) :

B Estimated result. Result is less than RL.

LDC #: 6395A4
SDG #: E1A190286
Laboratory: Severn Trent Laboratories

VALIDATION COMPLETENESS WORKSHEET

X Tier 3

Date: 5-10-01

Page: 1 of

Reviewer: A

2nd Reviewer: M

METHOD: Metals (EPA SW 846 Method 6010/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1-19-01
II.	Calibration	A	
III.	Blanks	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	N	3 ND ms 1 dupd N/A/E 1P
VI.	Duplicate Sample Analysis	N	
VII.	Laboratory Control Samples (LCS)	A	LCS
VIII.	Internal Standard (ICP-MS)	N	NOT UTILIZING
IX.	Furnace Atomic Absorption QC	N	
X.	ICP Serial Dilution	N	NOT PERFORMED
XI.	Sample Result Verification	A	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	A	
XIV.	Field Blanks	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

ALL AQ

1	BL-2-W-011901	11		21		31	
2	TMW-10-W-011901	12		22		32	
3	WCC-95-W-011901	13		23		33	
4	15	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 6395A4
SDG #: E1A190286

VALIDATION FINDINGS WORKSHEET

Sample Specific Element Reference

Page: _____ of _____

Reviewer: ✓

2nd reviewer: W

All circled elements are applicable to each sample.

Comments: Mercury by CVAA if performed

LDC #: 6395AY
SDG #: P21A1G028C

VALIDATION FINDINGS WORKSHEET

Technical Holding Times

Page: 1 of 1
Reviewer: J. R.
d reviewer: M. J.

N N/A Were samples preserved?

N N/A Were all cooler temperatures within validation criteria?

All circled dates have exceeded the technical holding time.

Technical Holding Time Criteria

Mercury: 28 days preserved pH <2

All other metals 6 months preserved pH <2

Organic lead Extracted within 14 days for s

Extracted within 14 days for soils and 7 days for waters, analyzed within 40 days of extraction. (no preservation)

LDC #: 6365 14
SDG #: 81A 190286

VALIDATION FINDINGS WORKSHEET

Bevölkung

Review

2nd Review

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

<u>Y</u>	<u>N</u>	<u>N/A</u>	Were all instruments calibrated daily, each set-up time, and were the proper number of standards used?
<u>Y</u>	<u>N</u>	<u>N/A</u>	Were all initial and continuing calibration verification percent recoveries (%R) within the control limits of 90-110% for all analytes except mercury (80-120%) and cyanide (85-115%)?

LEVEL IV ONLY:

Was a midrange cyanide standard distilled?

Are all correlation coefficients > 0.995 ?

- Are all correlation coefficients ≥ 0.995 ?
- Were recalculated results acceptable?

Comments:

CAL 4 SW

LDC #: 6254
SDG #: 61AICU26

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: WJ
2nd Reviewer: WJ

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found × 100
True Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Reported		Acceptable (Y/N)
					Recalculated	%R	
ICV	ICP (Initial calibration)	Pb	0.99402	1.0	0.994	n.r.	Y
	GFAA (Initial calibration)						
ICV	CVAA (Initial calibration)	Hg	2.58	2.5	2.63.2	n.r.	Y
CCV3	ICP (Continuing calibration)	Co	2.0242	2.0	1.91.2	n.r.	Y
	GFAA (Continuing calibration)						
CCV1	CVAA (Continuing calibration)	Hg	5.18	5.0	5.3.6	n.r.	Y
	Cyanide (Initial calibration)						
	Cyanide (Continuing calibration)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 6J7197SDG #: 21 AL52246

VALIDATION FINDINGS WORKSHEET

PB/ICB/CCB Q1 - FIELD SAMPLES

METHOD: Tr. Metals (EPA SW 846 Method 6010/7000) Soil preparation factor app. 14/18
Sample Concentration units, unless otherwise noted: ug/LAssociated Samples: 111Page: 1 of 1
Rev: F
2nd Rev: F

Sample Identification											
Analyte	Maximum PB* (mg/Kg)	Maximum PB* (ug/L)	Maximum ICB/CCB* (ug/L)	Blank Action Limit							
Al											
Sb											
As											
Ba											
Be											
Cd											
Ca											
Cr											
Co											
Cu											
Fe											
Pb											
Mg											
Mn											
Hg											
Ni											
K											
Se											
Ag											
Na											
Tl											
V											
Zn											
B											
Mo											
Sr											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected "U".
 Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 632544
SDG #: P1A P412-86

VALIDATION FINDINGS WORKSHEET

ICP Interference Check Sample

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

<input checked="" type="checkbox"/>	N	N/A	Were ICP interference check samples performed as required?
<input checked="" type="checkbox"/>	Y	N/A	Were the AB solution measurements taken at the same time as the sample measurements?

LEVEL IV ONLY: Were the AB solution percent recoveries (%H) within the control limits of 80-120%?

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Comments:

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LDC #: 6355A4
SDG #: 121-190286

VALIDATION FINDINGS WORKSHEET

Matrix S1 → Analysis

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

INFORMATION FINDINGS WORK
Matrix Sr. Analysis

Page: of
Review:

Please see qualifications below for all questions answered

Not applicable questions are identified as N/A.

Was a matrix spike analyzed for each matrix?

Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 1 or more, no action was taken.

Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery?

LEVEL IV ONLY: Was a post-urgency spike analyzed for ICP elements that did not meet the required criteria for **LEVEL IV ONLY:** Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations

Comments:

LDC #: 6355194
SDG #: 121A100286

VALIDATION FINDINGS WORKSHEET

Duplicate Analysis

Duplicate Analysis

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Page: 1
Reviewer:
2nd Reviewer:

Please see specifications below for all details.

Qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a duplicate sample analyzed for each matrix in this SDG?

Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water samples and $\leq 35\%$ for soil samples? If no, see qualifications below. A control limit of $\pm R.L.$ ($\pm 2X R.L.$ for soil) was used for sample values that were $< 5X$ the R.L., including the case when only one of the duplicate sample values was $< 5X$ R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment

LEVEL X ONLY

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

Comments:

LDC #: 6355A4
SDG #: Y - 90286

VALIDATION FINDINGS WORKSHEET

Laboratory Com! Samples (LCS)

Page: 6 of 2
Rev: r:
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

<input checked="" type="checkbox"/>	N	N/A
Was a laboratory control sample (LCS) analyzed for each matrix in this SDG?		
<input checked="" type="checkbox"/>	N	N/A
Were all aqueous LCS percent recoveries (%R) within the control limits of 80-120% and all soil LCS %R within laboratory established control limits.		

LEVEL IV ONLY:

<input checked="" type="checkbox"/>	N	N/A
Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.		

Comments:

LDC #: 6345A4
SDG #: E1415U286

VALIDATION FINDINGS WORKSHEET

Furnace Atomic Absorption QC

Page: 107
Reviewer: ✓
2nd Reviewer: ✓

METHOD: Trace metals (EPA SW 846 Method 6010/7000)
Please see qualifications below for all questions.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A If MSA was performed was the correlation coefficients > 0.995 ?

LEVEL N ONLY:

Y N N/A Do all applicable analyses have duplicate injections?

Y N N/A For sample concentrations > CDR₁, are applicable duplicate injection RSD values < 20%?

EVENING.

Do all applicable analyses have duplicate initials?

**For example concentrations in 0.01%
of all applicable antiserae have duplicate injections!**

For sample concentrations > CRDL, are applicable duplicate injection RSD values analytical recoveries with in the control limits of 95-115%?

Comments:

4SW

LDC #: 6345A4
SDG #: 121 90284

VALIDATION FINDINGS WORKSHEET

ICP Ser. **Jilution**

SDG #: 14 AU 284

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

If analyte concentrations were > 50X the IDL, was an ICP serial dilution analyzed?

Were ICP serial dilution percent differences (%D) <10%?

Is there evidence of negative interference? If yes, professor _____

REVIEWS ONLY:

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

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Comments:

Comments: _____

LDC #: 639 SAY
SDG #: 2450286

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1
Reviewer: JY
2nd Reviewer: JY

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation,
 Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$\text{RPD} = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated		Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D		
ICSA	ICP Interference check	Tl	0.10439	0.1	104.39	104.39	N.N	Y
LCS	Laboratory control sample	Al	2.02	2.0	101	101	Y	
N/A	Matrix spike		(SSR-SR)					
	Duplicate							
	ICP serial dilution							

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 6375A4
SDG #: D1A190286

VALIDATION FINDINGS WORKSHEET

Sample Ref. Verification

METHOD: Trace metals (EPA SW-846 6010/7000)

Page: 1 of 1
R_c ver: 1
2nd Reviewer initials

Comments:

LDC #: 639584
SDG #: EIA190 286

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

Page: 1 of 1
Reviewer: Z
2nd reviewer: JW

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Please see Qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

<input checked="" type="checkbox"/>	N	N/A	Have results been reported and calculated correctly?	
<input checked="" type="checkbox"/>	Y	N	N/A	Are results within the calibrated range of the instruments and within the linear range of the ICP?
<input checked="" type="checkbox"/>	Y	N	N/A	Are all detection limits below the CRDL?

Detected analyte results for _____ were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(RD)(FV)(Dil)}{(\ln. \text{ Vol.})(\%S)}$$

Recalculation:

RD	=	Raw data concentration
FV	=	Final volume (ml)
In. Vol.	=	Initial volume (ml) or weight (G)
Dil	=	Dilution factor
%S	=	Decimal percent solids

from raw data

LDC #: 435 SAY
SDG #: R21A 190286

LDC #: 435 SAY
SDG #: 121419026

VALIDATION FINDINGS WORKSHEET

Overall Assessment of Data

Overall Assessment of Data

Overall Assessment

SDG #: 12

Blood and clinical signs below the water

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N NA Was the overall quality and usability of the data acceptable?

Comments:

LDC #: 6395AY
SDG #: F1A190286

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: 2
2nd reviewer: MF

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Y N N/A

Were field duplicate pairs identified in this SDG?

Y N N/A Were target analytes detected in the field duplicate pairs?

Analyte	Concentration ()		RPD (Limits)	Difference (Limits)	Qualifications
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Mercury					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Thallium					
Vanadium					
Zinc					
Cyanide					
Boron					
Molybdenum					
Strontium					
Silicon					

Notes:

LDC #: 6395A4
SDG #: BIA190286

VALIDATION FINDINGS WORKSHEET

Field Blanks

Page: _____ of _____
Reviewer: _____
2nd reviewer: _____

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?

Sample: _____ **Field Blank / Trip Blank / Rinsate / Other** _____ (circle one)

Sample: _____ Field Blank / Trip Blank / Rinsate / Other _____ (circle one)

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing Redevelopment Corp., C-6 Site
Collection Date: January 29, 2001
LDC Report Date: May 12, 2001
Matrix: Water
Parameters: Dissolved Metals
Validation Level: Tier 2
Laboratory: Severn Trent Laboratories
Sample Delivery Group (SDG): E1A290172

Sample Identification

TMW-6-W-012901
TMW-4-W-012901
TMW-4-D-012901
TMW-3-W-012901
TMW-9-W-012901
XMW-09-W-012901
WCC-11S-W-012901
WCC-5S-W-012901
TMW-1-W-012901

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010 and 7000 for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodices were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony Selenium	0.0038 mg/L 0.0044 mg/L	All samples in SDG E1A290172

Sample concentrations were compared to the maximum contaminant concentrations detected in the PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TMW-6-W-012901	Antimony	0.0035 mg/L	0.0035U mg/L
TMW-4-W-012901	Antimony	0.0037 mg/L	0.0037U mg/L
TMW-4-D-012901	Antimony	0.0044 mg/L	0.0044U mg/L
TMW-3-W-012901	Antimony	0.0023 mg/L	0.0023U mg/L
TMW-9-W-012901	Antimony	0.0045 mg/L	0.0045U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
XMW-09-W-012901	Antimony	0.0023 mg/L	0.0023U mg/L
WCC-11S-W-012901	Antimony	0.0030 mg/L	0.0030U mg/L
WCC-5S-W-012901	Antimony	0.0024 mg/L	0.0024U mg/L
TMW-1-W-012901	Antimony	0.0057 mg/L	0.0057U mg/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG E1A290172	All TAL metals	No MS associated with these samples.	MS required.	None	P

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG E1A290172	All TAL metals	No DUP analysis associated with these samples.	DUP analysis required.	None	P

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

Sample result verification data were not reviewed for Tier 2.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples TMW-4-W-012901 and TMW-4-D-012901 were identified as field duplicates. No dissolved metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	TMW-4-W-012901	TMW-4-D-012901	
Aluminum	0.12	0.083	36
Antimony	0.0037	0.0044	17
Barium	0.13	0.13	0
Calcium	171	169	1
Chromium	0.021	0.020	5
Copper	0.0250	0.0054	200
Iron	0.24	0.21	13
Magnesium	32.0	31.1	3
Manganese	0.0050	0.0042	17
Selenium	0.0062	0.00500	200

Analyte	Concentration (mg/L)		RPD
	TMW-4-W-012901	TMW-4-D-012901	
Sodium	107	107	0
Vanadium	0.0021	0.0016	27
Zinc	0.020U	0.011	200

XIV. Field Blanks

No field blanks were identified in this SDG.

Boeing Redevelopment Corp., C-6 Site
Dissolved Metals - Data Qualification Summary - SDG E1A290172

SDG	Sample	Analyte	Flag	A or P	Reason
E1A290172	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901 WCC-11S-W-012901 WCC-5S-W-012901 TMW-1-W-012901	All TAL metals	None	P	Matrix spike analysis
E1A290172	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901 WCC-11S-W-012901 WCC-5S-W-012901 TMW-1-W-012901	All TAL metals	None	P	Duplicate analysis

Boeing Redevelopment Corp., C-6 Site
Dissolved Metals - Laboratory Blank Data Qualification Summary - SDG E1A290172

SDG	Sample	Analyte	Modified Final Concentration	A or P
E1A290172	TMW-6-W-012901	Antimony	0.0035U mg/L	A
E1A290172	TMW-4-W-012901	Antimony	0.0037U mg/L	A
E1A290172	TMW-4-D-012901	Antimony	0.0044U mg/L	A
E1A290172	TMW-3-W-012901	Antimony	0.0023U mg/L	A
E1A290172	TMW-9-W-012901	Antimony	0.0045U mg/L	A
E1A290172	XMW-09-W-012901	Antimony	0.0023U mg/L	A
E1A290172	WCC-11S-W-012901	Antimony	0.0030U mg/L	A
E1A290172	WCC-5S-W-012901	Antimony	0.0024U mg/L	A
E1A290172	TMW-1-W-012901	Antimony	0.0057U mg/L	A

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

TOTAL Metals

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #....: 1032273							
Mercury	ND	0.00020	mg/L		SW846 7470A	02/01-02/02/01 DVAAX1CH	
		Dilution Factor: 1			Analysis Time...: 16:00	Analyst ID.....: 021088	
		Instrument ID...: M04			MS Run #.....: 1032100	MDL.....: 0.00010	
Prep Batch #....: 1032411							
Aluminum	0.10 B	0.20	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1AW	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031190	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.080	
Arsenic	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1AX	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Antimony	0.0035 B	0.060	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 003119.	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0020	
Barium	0.18	0.020	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1A1	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1A2	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Chromium	0.023	0.010	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1A3	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Beryllium	ND	0.0050	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1A4	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Lead	ND	0.0050	mg/L		SW846 6010B	02/01-02/02/01 DVAAX1A5	
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0020	

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000068

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-001

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ANALYSIS DATE	ORDER #
		LIMIT	UNITS						
Selenium	0.0043 B	0.0050	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1A6
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0040
Silver	ND	0.010	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1A7
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0010
Cobalt	ND	0.050	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1A8
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0010
Copper	ND	0.025	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1A9
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0040
Molybdenum	ND	0.040	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1CA
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0030
Nickel	ND	0.040	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1CC
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0030
Thallium	ND	0.010	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1CD
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0050
Vanadium	0.0014 B	0.050	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1CE
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0010
Zinc	ND	0.020	mg/L		SW846 6010B			02/01-02/02/01	DVAAX1CF
		Dilution Factor: 1			Analysis Time...: 17:30				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.010

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TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-001

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Calcium	177	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1CU
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.050	
Iron	0.19	0.10	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1CV
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.030	
Magnesium	32.6	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1CW
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.020	
Manganese	0.0037 B	0.015	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1CX
		Dilution Factor: 1			Analysis Time...: 17:30	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Sodium	109	5.0	mg/L		SW846 6010B	02/01-02/05/01	DVAAX1CZ
		Dilution Factor: 1			Analysis Time...: 15:15	Analyst ID.....: 003115	
		Instrument ID...: M06			MS Run #.....: 1032209	MDL.....: 0.40	

NOTE(S) :

B Estimated result. Result is less than RL.

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TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

TOTAL Metals

Lot-Sample #....:	E1A290172-002			Matrix.....:	WATER	
Date Sampled....:	01/29/01 10:00			Date Received..:	01/29/01 17:35	
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....:	1032273					
Mercury	ND	0.00020	mg/L	SW846 7470A	02/01-02/02/01	DVAA01CK
		Dilution Factor: 1		Analysis Time...: 16:02	Analyst ID.....:	021088
		Instrument ID...: M04		MS Run #.....: 1032100	MDL.....:	0.00010
Prep Batch #....:	1032411					
Aluminum	0.12 B	0.20	mg/L	SW846 6010B	02/01-02/02/01	DVAA01A8
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031190
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.080
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAA01A9
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0040
Antimony	0.0037 B	0.060	mg/L	SW846 6010B	02/01-02/02/01	DVAA01AA
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0020
Barium	0.13	0.020	mg/L	SW846 6010B	02/01-02/02/01	DVAA01AC
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0010
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAA01AD
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.00050
Chromium	0.021	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAA01AE
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0010
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAA01AF
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.00050
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAA01AG
		Dilution Factor: 1		Analysis Time...: 17:38	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0020

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6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-002

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Selenium	0.0062	0.0050	mg/L		SW846 6010B	02/01-02/02/01	DVAA01AH
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA01AJ
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA01AK
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Copper	ND	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAA01AL
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA01
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA01CE
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA01CF
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0050	
Vanadium	0.0021 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA01CG
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Zinc	ND	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAA01CH
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.010	

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6-45

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

TOTAL Metals

Lot-Sample #...: E1A290172-002

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Calcium	171	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAA01CW
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.050	
Iron	0.24	0.10	mg/L		SW846 6010B	02/01-02/02/01	DVAA01CX
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.030	
Magnesium	32.0	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAA01C0
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.020	
Manganese	0.0050 B	0.015	mg/L		SW846 6010B	02/01-02/02/01	DVAA01C1
		Dilution Factor: 1			Analysis Time...: 17:38	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Sodium	107	5.0	mg/L		SW846 6010B	02/01-02/05/01	DVAA01CA
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031199	
		Instrument ID...: M06			MS Run #.....: 1032209	MDL.....: 0.40	

NOTE(S):

B Estimated result. Result is less than RL.



 5-4-07

000075

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

TOTAL Metals

Lot-Sample #....: E1A290172-003 Date Sampled...: 01/29/01 10:05 Date Received..: 01/29/01 17:35				Matrix.....: WATER	
PARAMETER	RESULT	REPORTING LIMIT	UNITS	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 1032273					
Mercury	ND	0.00020	mg/L	SW846 7470A	02/01-02/02/01 DVAA11CK
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 16:04 Analyst ID.....: 021088					
MS Run #.....: 1032100 MDL.....: 0.00010					
Prep Batch #....: 1032411					
Aluminum	0.083 B	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVAA11A8
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031190					
MS Run #.....: 1032209 MDL.....: 0.080					
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA11A9
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031199					
MS Run #.....: 1032209 MDL.....: 0.0040					
Antimony	0.0044 B	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVAA11A
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031199					
MS Run #.....: 1032209 MDL.....: 0.0020					
Barium	0.13	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AC
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031199					
MS Run #.....: 1032209 MDL.....: 0.0010					
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AD
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031199					
MS Run #.....: 1032209 MDL.....: 0.00050					
Chromium	0.020	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AE
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031199					
MS Run #.....: 1032209 MDL.....: 0.0010					
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AF
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031199					
MS Run #.....: 1032209 MDL.....: 0.00050					
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AG
Dilution Factor: 1 Instrument ID...: M01					
Analysis Time...: 17:46 Analyst ID.....: 0031199					
MS Run #.....: 1032209 MDL.....: 0.0020					

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6/1/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

TOTAL Metals

Lot-Sample #....: E1A290172-003

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>ANALYSIS DATE</u>			
Selenium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1AH	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0040	
Silver	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1AJ	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1AK	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0010	
Copper	0.0054 B	0.025	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1AL	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1CD	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0030	
Nickel	ND	0.040	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1CE	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0030	
Thallium	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1CF	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0050	
Vanadium	0.0016 B	0.050	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1CG	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.0010	
Zinc	0.011 B	0.020	mg/L	SW846 6010B	02/01-02/02/01	DVAAl1CH	
		Dilution Factor: 1		Analysis Time...: 17:46		Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209		MDL.....: 0.010	

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6/1/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

TOTAL Metals

Lot-Sample #...: E1A290172-003

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Calcium	169	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAAl1CW
		Dilution Factor: 1			Analysis Time...: 17:46	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.050	
Iron	0.21	0.10	mg/L		SW846 6010B	02/01-02/02/01	DVAAl1CX
		Dilution Factor: 1			Analysis Time...: 17:46	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.030	
Magnesium	31.1	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAAl1C0
		Dilution Factor: 1			Analysis Time...: 17:46	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.020	
Manganese	0.0042 B	0.015	mg/L		SW846 6010B	02/01-02/02/01	DVAAl1C1
		Dilution Factor: 1			Analysis Time...: 17:46	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Sodium	107	5.0	mg/L		SW846 6010B	02/01-02/05/01	DVAAl1
		Dilution Factor: 1			Analysis Time...: 15:34	Analyst ID.....: 0031199	
		Instrument ID...: M06			MS Run #.....: 1032209	MDL.....: 0.40	

NOTE(S) :

B Estimated result. Result is less than RL.

000080

J
6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

TOTAL Metals

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #....: 1032273							
Mercury	ND	0.00020	mg/L	SW846 7470A	02/01-02/02/01 DVAA31CK		
		Dilution Factor: 1		Analysis Time...: 16:05	Analyst ID.....: 021088		
		Instrument ID...: M04		MS Run #.....: 1032100	MDL.....: 0.00010		
Prep Batch #....: 1032411							
Aluminum	8.6	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVAA31A8		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031190		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.080		
Arsenic	0.0050 B	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA31A9		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031199		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0040		
Antimony	0.0023 B	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVAA31AA		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031199		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0020		
Barium	0.16	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVAA31AC		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031199		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0010		
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA31AD		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031199		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.00050		
Chromium	0.098	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA31AE		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031199		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0010		
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA31AF		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031199		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.00050		
Lead	0.0047 B	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA31AG		
		Dilution Factor: 1		Analysis Time...: 17:54	Analyst ID.....: 0031199		
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0020		

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000083

A
6/15

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-004

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Selenium	0.0043 B	0.0050	mg/L		SW846 6010B	02/01-02/02/01	DVAA31AH
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA31AJ
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Cobalt	0.0042 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA31AK
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Copper	0.024 B	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAA31AL
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Molybdenum	0.0083 B	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA31
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Nickel	0.048	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA31CE
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA31CF
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0050	
Vanadium	0.021 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA31CG
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Zinc	0.13	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAA31CH
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.010	

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000084

A
6.4.01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

TOTAL Metals

Lot-Sample #....: ELA290172-004

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Calcium	114	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVA31CW
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.050	
Iron	8.2	0.10	mg/L		SW846 6010B	02/01-02/02/01	DVA31CX
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.030	
Magnesium	30.1	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVA31C0
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.020	
Manganese	0.14	0.015	mg/L		SW846 6010B	02/01-02/02/01	DVA31C1
		Dilution Factor: 1			Analysis Time...: 17:54	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Sodium	104	5.0	mg/L		SW846 6010B	02/01-02/05/01	DVA31CA
		Dilution Factor: 1			Analysis Time...: 15:39	Analyst ID.....: 0031199	
		Instrument ID...: M06			MS Run #.....: 1032209	MDL.....: 0.40	

NOTE(S) :

B Estimated result. Result is less than RL.

000085

A
6-4-07

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-005
 Date Sampled....: 01/29/01 12:25 Date Received...: 01/29/01 17:35 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 1032273						
Mercury	0.00039	0.00020	mg/L	SW846 7470A	02/01-02/02/01	DVAAS1CK
		Dilution Factor: 1		Analysis Time...: 16:07	Analyst ID.....:	021088
		Instrument ID...: M04		MS Run #.....: 1032100	MDL.....:	0.00010
Prep Batch #....: 1032411						
Aluminum	10.0	0.20	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1A8
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031190
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.080
Arsenic	0.014	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1A9
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0040
Antimony	0.0045 B	0.060	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0020
Barium	0.38	0.020	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AC
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0010
Cadmium	0.0012 B	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AD
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.00050
Chromium	0.15	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AE
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0010
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AF
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.00050
Lead	0.45	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AG
		Dilution Factor: 1		Analysis Time...: 18:02	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0020

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000083

An
6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-005

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Selenium	0.0061	0.0050	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1AH
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1AJ
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Cobalt	0.0065 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1AK
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Copper	0.061	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1AL
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Molybdenum	0.0084 B	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1CD
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Nickel	0.039 B	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1CE
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1CF
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0050	
Vanadium	0.031 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1CG
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Zinc	0.39	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1CH
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.010	

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000083

A
6-4-01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-005

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Calcium	143	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1CW
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.050	
Iron	15.5	0.10	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1CX
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.030	
Magnesium	29.7	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1C0
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.020	
Manganese	0.21	0.015	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1C1
		Dilution Factor: 1			Analysis Time...: 18:02	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Sodium	99.4	5.0	mg/L		SW846 6010B	02/01-02/05/01	DVAAS
		Dilution Factor: 1			Analysis Time...: 15:44	Analyst ID.....: 0031199	
		Instrument ID...: M06			MS Run #.....: 1032209	MDL.....: 0.40	

NOTE(S) :

B Estimated result. Result is less than RL.

000090

A
6-4-a

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-006
 Date Sampled...: 01/29/01 14:10 Date Received...: 01/29/01 17:35 Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1032273						
Mercury	ND	0.00020	mg/L	SW846 7470A	02/01-02/02/01 DVAA71CM	
Dilution Factor: 1 Instrument ID...: M04						
Prep Batch #....: 1032411						
Aluminum	1.0	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AK	
Dilution Factor: 1 Instrument ID...: M01						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AL	
Dilution Factor: 1 Instrument ID...: M01						
Antimony	0.0023 B U	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AM	
Dilution Factor: 1 Instrument ID...: M01						
Barium	0.45	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AN	
Dilution Factor: 1 Instrument ID...: M01						
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AP	
Dilution Factor: 1 Instrument ID...: M01						
Chromium	0.012	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AQ	
Dilution Factor: 1 Instrument ID...: M01						
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AR	
Dilution Factor: 1 Instrument ID...: M01						
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA71AT	
Dilution Factor: 1 Instrument ID...: M01						

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000093

A
6/4/07

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-006

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ANALYSIS DATE	ORDER #
		LIMIT	UNITS						
Selenium	0.0059	0.0050	mg/L		SW846 6010B			02/01-02/02/01	DVAA71AU
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0040
Silver	ND	0.010	mg/L		SW846 6010B			02/01-02/02/01	DVAA71AV
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0010
Cobalt	ND	0.050	mg/L		SW846 6010B			02/01-02/02/01	DVAA71AW
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0010
Copper	0.0051 B	0.025	mg/L		SW846 6010B			02/01-02/02/01	DVAA71AX
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0040
Molybdenum	0.0030 B	0.040	mg/L		SW846 6010B			02/01-02/02/01	DVAA71
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0030
Nickel	0.016 B	0.040	mg/L		SW846 6010B			02/01-02/02/01	DVAA71CG
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0030
Thallium	ND	0.010	mg/L		SW846 6010B			02/01-02/02/01	DVAA71CH
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0050
Vanadium	0.0043 B	0.050	mg/L		SW846 6010B			02/01-02/02/01	DVAA71CJ
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.0010
Zinc	ND	0.020	mg/L		SW846 6010B			02/01-02/02/01	DVAA71CK
		Dilution Factor: 1			Analysis Time...: 18:10				Analyst ID.....: 0031199
		Instrument ID...: M01			MS Run #.....: 1032209				MDL.....: 0.010

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000094

A
6-407

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-006

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Calcium	213	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAA71C0
		Dilution Factor: 1			Analysis Time...: 18:10	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.050	
Iron	1.6	0.10	mg/L		SW846 6010B	02/01-02/02/01	DVAA71C1
		Dilution Factor: 1			Analysis Time...: 18:10	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.030	
Magnesium	55.2	5.0	mg/L		SW846 6010B	02/01-02/02/01	DVAA71CA
		Dilution Factor: 1			Analysis Time...: 18:10	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.020	
Manganese	0.025	0.015	mg/L		SW846 6010B	02/01-02/02/01	DVAA71CC
		Dilution Factor: 1			Analysis Time...: 18:10	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.00050	
Sodium	107	5.0	mg/L		SW846 6010B	02/01-02/05/01	DVAA71CD
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....: 0031199	
		Instrument ID...: M06			MS Run #.....: 1032209	MDL.....: 0.40	

NOTE(S) :

B Estimated result. Result is less than RL.

000095

A
6-4-09

TAIT ENVIRONMENTAL

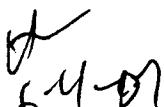
Client Sample ID: WCC_11S_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-007
 Date Sampled....: 01/29/01 08:45 Date Received...: 01/29/01 17:35 Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1032273						
Mercury	0.00015 B	0.00020	mg/L	SW846 7470A	02/01-02/02/01 DVAA91AW	
		Dilution Factor: 1		Analysis Time...: 16:15	Analyst ID.....: 021088	
		Instrument ID...: M04		MS Run #.....: 1032100	MDL.....: 0.00010	
Prep Batch #....: 1032411						
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVAA91AC	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031190	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.080	
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA91AD	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0040	
Antimony	0.0030 B	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVAA91P	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0020	
Barium	0.090	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVAA91AF	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA91AG	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.00050	
Chromium	0.016	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA91AH	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0010	
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA91AJ	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.00050	
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA91AK	
		Dilution Factor: 1		Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....: 0.0020	

(Continued on next page)


 A handwritten signature consisting of a stylized 'J' and 'M' followed by a date '6-1-01'.

000096

TAIT ENVIRONMENTAL

Client Sample ID: WCC_11S_W_012901

TOTAL Metals

Lot-Sample #...: E1A290172-007

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Selenium	0.0057	0.0050	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AL
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AM
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AN
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Copper	ND	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AP
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AQ
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AR
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AT
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0050	
Vanadium	0.0040 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AU
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Zinc	ND	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAA91AV
		Dilution Factor: 1			Analysis Time...: 18:32	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.010	

NOTE(S) :

B Estimated result. Result is less than RL.

000097

A
6/14/9

TAIT ENVIRONMENTAL

Client Sample ID: WCC_5S_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-008
 Date Sampled...: 01/29/01 09:45 Date Received...: 01/29/01 17:35 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....:	1032273					
Mercury	ND	0.00020	mg/L	SW846 7470A	02/01-02/02/01	DVACD1AW
		Dilution Factor: 1		Analysis Time...: 16:16	Analyst ID.....:	021088
		Instrument ID...: M04		MS Run #.....: 1032100	MDL.....:	0.00010
Prep Batch #....:	1032411					
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AC
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031190
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.080
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AD
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0040
Antimony	0.0024 B	0.060	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AP
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0020
Barium	0.24	0.020	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AF
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0010
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AG
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.00050
Chromium	0.0092 B	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AH
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0010
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AJ
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.00050
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVACD1AK
		Dilution Factor: 1		Analysis Time...: 18:40	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1032209	MDL.....:	0.0020

(Continued on next page)

000098

6-14-01

TAIT ENVIRONMENTAL

Client Sample ID: WCC_SS_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-008

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Selenium	ND	0.0050	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AL
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AM
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AN
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Copper	ND	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AP
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AQ
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AR
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AT
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0050	
Vanadium	0.0025 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AU
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Zinc	ND	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVACD1AV
		Dilution Factor: 1			Analysis Time...: 18:40	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.010	

NOTE(S) :

B Estimated result. Result is less than RL.

000099

A
6/15/

TAIT ENVIRONMENTAL

Client Sample ID: TMW_1_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-009

Date Sampled...: 01/29/01 11:43 Date Received...: 01/29/01 17:35

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1032273						
Mercury	ND	0.00020	mg/L	SW846 7470A	02/01-02/02/01 DVACE1AW	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 16:18	Analyst ID.....: 021088	
				MS Run #.....: 1032100	MDL.....: 0.00010	
Prep Batch #....: 1032411						
Aluminum	5.4	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AC	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031190	
				MS Run #.....: 1032209	MDL.....: 0.080	
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AD	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031199	
				MS Run #.....: 1032209	MDL.....: 0.0040	
Antimony	0.0057 B	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AF	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031199	
				MS Run #.....: 1032209	MDL.....: 0.0020	
Barium	0.35	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AF	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031199	
				MS Run #.....: 1032209	MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AG	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031199	
				MS Run #.....: 1032209	MDL.....: 0.00050	
Chromium	0.045	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AH	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031199	
				MS Run #.....: 1032209	MDL.....: 0.0010	
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AJ	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031199	
				MS Run #.....: 1032209	MDL.....: 0.00050	
Lead	0.0028 B	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVACE1AK	
Dilution Factor: 1						
Instrument ID...: M01				Analysis Time...: 18:48	Analyst ID.....: 0031199	
				MS Run #.....: 1032209	MDL.....: 0.0020	

(Continued on next page)

000100

An
6-11-01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_1_W_012901

TOTAL Metals

Lot-Sample #....: E1A290172-009

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Selenium	0.0090	0.0050	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AL
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AM
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Cobalt	0.0026 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AN
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Copper	0.0087 B	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AP
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0040	
Molybdenum	0.0042 B	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AQ
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Nickel	0.020 B	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AR
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AT
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0050	
Vanadium	0.012 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AU
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.0010	
Zinc	0.026	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVACE1AV
		Dilution Factor: 1			Analysis Time...: 18:48	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1032209	MDL.....: 0.010	

NOTE(S):

B Estimated result. Result is less than RL.

000101

A
6-4-01

LDC #: 6395B4

VALIDATION COMPLETENESS WORKSHEET

SDG #: E1A290172

X Tier 2

Laboratory: Severn Trent Laboratories

Date: 5-11-01

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1-29-01
II.	Calibration	A	
III.	Blanks	SV	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	AN	3 NO ms/Dmp NOms/p
VI.	Duplicate Sample Analysis	N	
VII.	Laboratory Control Samples (LCS)	A	L(1)
VIII.	Internal Standard (ICP-MS)	N	3 NOT UTILIZED
IX.	Furnace Atomic Absorption QC	N	
X.	ICP Serial Dilution	N	NOT REQUIRED
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	SW	(2,3)
XIV.	Field Blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

ALL OK

1	TMW-6-W-012901	11		21		31	
2	TMW-4-W-012901	12		22		32	
3	TMW-4-D-012901	13		23		33	
4	TMW-3-W-012901	14		24		34	
5	TMW-9-W-012901	15		25		35	
6	XMW-09-W-012901	16		26		36	
7	WCC-11S-W-012901	17		27		37	
8	WCC-5S-W-012901	18		28		38	
9	TMW-1-W-012901	19		29		39	
10	10	20		30		40	

Notes:

LDC #: 635584
SDG #: F1A280172

VALIDATION FINDINGS WORKSHEET

Sample Specific Element Reference

Page: 1 of 1

Reviewer: *[Signature]*

2nd reviewer: ✓

All circled elements are applicable to each sample

~~Comments: Mercury by CVAA if performed~~

LDC #: 634034

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

SDG #: 63400072

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: 1/4

Associated Samples:

Page: 1 of 1
Reviewer: AF
2nd Reviewer: PL

Sample Identification									
Analyte	Maximum PB* (mg/kg)	Maximum ICB/CCB* (ug/L)	Blank Action Limit	1	2	3	4	5	6
Al									
Sb	0.0038								
As									
Ba									
Be									
Cd									
Ca									
Cr									
Co									
Cu									
Fe									
Pb									
Mg									
Mn									
Hg									
Ni									
K									
Se		0.0044							
Ag									
Na									
Tl									
V									
Zn									
B									
Mo									
Sr									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 635544
SDG #: BIA 290172

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: J
2nd reviewer: WY

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

N/A
 Y N/A

Were field duplicate pairs identified in this SDG?
Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (Limits)	Difference (Limits)	Qualifications
	2	3			
Aluminum	0.12	0.083	36		
Antimony	0.0037	0.0044	17		
Arsenic					
Barium	0.13	0.13	0		
Beryllium					
Cadmium					
Calcium	171	169	1		
Chromium	0.021	0.020	5		
Cobalt					
Copper	0.0254	0.0054	200		
Iron	0.24	0.21	13		
Lead					
Manganese	32.0	31.1	3		
Manganese	0.0050	0.0042	17		
Mercury					
Nickel					
Potassium					
Selenium	0.0062	0.00504	200		
Silver					
Sodium	107	107	0		
Thallium					
Vanadium	0.0021	0.0016	27		
Zinc	0.0204	0.011	200		
Cyanide					
Boron					
Molybdenum					
Strontium					
Silicon					

Notes:

**Boeing C-6 Site
Data Validation Reports
LDC# 6395**

Wet Chemistry



Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing Redevelopment Corp., C-6 Site
Collection Date: January 29, 2001
LDC Report Date: May 15, 2001
Matrix: Water
Parameters: Wet Chemistry
Validation Level: Tier 2
Laboratory: Severn Trent Laboratories
Sample Delivery Group (SDG): E1A290172

Sample Identification

TMW-6-W-012901
TMW-4-W-012901
TMW-4-D-012901
TMW-3-W-012901
TMW-9-W-012901
XMW-09-W-012901
WCC-11S-W-012901
WCC-5S-W-012901
TMW-1-W-012901
TMW-6-W-012901MS
TMW-6-W-012901MSD
TMW-3-W-012901MS
TMW-3-W-012901MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Chloride, Nitrate as Nitrogen, Nitrite as Nitrogen and Sulfate, EPA Method 415.1 for Total Organic Carbon, EPA SW 846 Method 7196A for Hexavalent Chromium, Standard Method 2320 for Alkalinity, and Standard Method 3500 for Ferrous Iron.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodices were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB	Alkalinity Total organic carbon	2.1 mg/L 0.83 mg/L	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901
ICB/CCB	Total organic carbon	0.639 mg/L	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TMW-6-W-012901	Total organic carbon	1.6 mg/L	1.6U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
TMW-3-W-012901	Total organic carbon	2.2 mg/L	2.2U mg/L
TMW-9-W-012901	Total organic carbon	2.1 mg/L	2.1U mg/L
XMW-09-W-012901	Total organic carbon	3.6 mg/L	3.6U mg/L

IV. Accuracy and Precision Data

a. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
TMW-6-W-012901	Chloride	No MS associated with these samples.	MS required.	None	P
TMW-4-W-012901	Ferrous iron			None	
TMW-4-D-012901	Nitrate as N			None	
TMW-3-W-012901	Sulfate			None	
TMW-9-W-012901					
XMW-09-W-012901					

Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
TMW-6-W-012901	Chloride	No DUP associated with these samples.	DUP required.	None	P
TMW-4-W-012901	Ferrous iron			None	
TMW-4-D-012901	Nitrate as N			None	
TMW-3-W-012901	Sulfate			None	
TMW-9-W-012901					
XMW-09-W-012901					

Results were within QC limits.

b. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Sample Result Verification

Sample result verification data were not reviewed for Tier 2.

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

Samples TMW-4-W-012901 and TMW-4-D-012901 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	TMW-4-W-012901	TMW-4-D-012901	
Chloride	369	381	3
Hexavalent chromium	0.017	0.018	6
Nitrate as N	2.7	2.8	4
Sulfate	23.3	23.4	0.4
Alkalinity	244	242	0.4
Total organic carbon	4.7	8.7	60

VIII. Field Blanks

No field blanks were identified in this SDG.

Boeing Redevelopment Corp., C-6 Site
Wet Chemistry - Data Qualification Summary - SDG E1A290172

SDG	Sample	Analyte	Flag	A or P	Reason
E1A290172	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901	Chloride Ferrous iron Nitrate as N Sulfate	None None None None	P	Matrix spike analysis
E1A290172	TMW-6-W-012901 TMW-4-W-012901 TMW-4-D-012901 TMW-3-W-012901 TMW-9-W-012901 XMW-09-W-012901	Chloride Ferrous iron Nitrate as N Sulfate	None None None None	P	Duplicate analysis

Boeing Redevelopment Corp., C-6 Site
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG E1A290172

SDG	Sample	Analyte	Modified Final Concentration	A or P
E1A290172	TMW-6-W-012901	Total organic carbon	1.6U mg/L	A
E1A290172	TMW-3-W-012901	Total organic carbon	2.2U mg/L	A
E1A290172	TMW-9-W-012901	Total organic carbon	2.1U mg/L	A
E1A290172	XMW-09-W-012901	Total organic carbon	3.6U mg/L	A

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

General Chemistry

Lot-Sample #....: E1A290172-001 Work Order #....: DVAAX Matrix.....: WATER
 Date Sampled....: 01/29/01 08:40 Date Received...: 01/29/01 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	350	10.0	mg/L	MCAWW 300.0A	01/30/01	1031426
		Dilution Factor: 10		Analysis Time...: 14:07	Analyst ID.....: 061265	
		Instrument ID...: W01		MS Run #.....: 1031211	MDL.....: 2.0	
Ferrous Iron	ND	1.0	mg/L	SM18 3500-FE D	01/29/01	1029458
		Dilution Factor: 1		Analysis Time...: 21:02	Analyst ID.....: 0001351	
		Instrument ID...: W06		MS Run #.....: 1031256	MDL.....: 0.10	
Hexavalent Chromium	0.017 B	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 20:46	Analyst ID.....: 0001356	
		Instrument ID...: W06		MS Run #.....: 1031162	MDL.....: 0.010	
Nitrate as N	6.4	0.50	mg/L	MCAWW 300.0A	01/30/01	1031432
		Dilution Factor: 5		Analysis Time...: 11:07	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031214	MDL.....: 0.15	
Nitrite as N	ND G	0.50	mg/L	MCAWW 300.0A	01/30/01	1031430
		Dilution Factor: 5		Analysis Time...: 11:07	Analyst ID.....: 0612654	
		Instrument ID...: W01		MS Run #.....:	MDL.....: 0.15	
Sulfate	71.8	5.0	mg/L	MCAWW 300.0A	01/30/01	1031433
		Dilution Factor: 5		Analysis Time...: 11:07	Analyst ID.....: 061265	
		Instrument ID...: W01		MS Run #.....: 1031215	MDL.....: 1.0	
Total Alkalinity	247	4.0	mg/L	SM18 2320 B	01/30/01	1031248
		Dilution Factor: 1		Analysis Time...: 18:23	Analyst ID.....: 9999955	
		Instrument ID...: W04		MS Run #.....:	MDL.....: 1.0	
Total Organic Carbon (TOC)	1.6 U	1.0	mg/L	MCAWW 415.1	01/30/01	1031212
		Dilution Factor: 1		Analysis Time...: 00:00	Analyst ID.....: 061265	
		Instrument ID...: W08		MS Run #.....: 1031082	MDL.....: 0.40	

NOTE(S) :

RL Reporting Limit

B Estimated result. Result is less than RL.

C Elevated reporting limit. The reporting limit is elevated due to matrix interference.



000057

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

General Chemistry

Lot-Sample #....: E1A290172-002 Work Order #....: DVAA0 Matrix.....: WATER
 Date Sampled...: 01/29/01 10:00 Date Received...: 01/29/01 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	369	10.0	mg/L	MCAWW 300.0A	01/30/01	1031426
		Dilution Factor: 10		Analysis Time...: 14:19	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031211	MDL.....: 2.0	
Ferrous Iron	ND	1.0	mg/L	SM18 3500-FE D	01/29/01	1029458
		Dilution Factor: 1		Analysis Time...: 21:04	Analyst ID.....: 0001351	
		Instrument ID...: W06		MS Run #.....: 1031256	MDL.....: 0.10	
Hexavalent Chromium	0.017 B	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 20:52	Analyst ID.....: 0001356	
		Instrument ID...: W06		MS Run #.....: 1031162	MDL.....: 0.010	
Nitrate as N	2.7	0.50	mg/L	MCAWW 300.0A	01/30/01	1031432
		Dilution Factor: 5		Analysis Time...: 11:19	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031214	MDL.....: 0.15	
Nitrite as N	ND G	0.50	mg/L	MCAWW 300.0A	01/30/01	1031430
		Dilution Factor: 5		Analysis Time...: 11:19	Analyst ID.....: 0612654	
		Instrument ID...: W01		MS Run #.....:	MDL.....: 0.15	
Sulfate	23.3	5.0	mg/L	MCAWW 300.0A	01/30/01	1031433
		Dilution Factor: 5		Analysis Time...: 11:19	Analyst ID.....: 061265	
		Instrument ID...: W01		MS Run #.....: 1031215	MDL.....: 1.0	
Total Alkalinity	244	4.0	mg/L	SM18 2320 B	01/30/01	1031248
		Dilution Factor: 1		Analysis Time...: 18:34	Analyst ID.....: 9999955	
		Instrument ID...: W04		MS Run #.....:	MDL.....: 1.0	
Total Organic Carbon (TOC)	4.7	1.0	mg/L	MCAWW 415.1	01/30/01	1031212
		Dilution Factor: 1		Analysis Time...: 00:00	Analyst ID.....: 061265	
		Instrument ID...: W08		MS Run #.....: 1031082	MDL.....: 0.40	

NOTE(S) :

RL Reporting Limit

B Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

000058

J
6-407

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

General Chemistry

Lot-Sample #....: E1A290172-003 Work Order #....: DVAA1 Matrix.....: WATER
 Date Sampled....: 01/29/01 10:05 Date Received...: 01/29/01 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	381	10.0	mg/L	MCAWW 300.0A	01/30/01	1031426
		Dilution Factor: 10		Analysis Time...: 16:43	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031211	MDL.....: 2.0	
Ferrous Iron	ND	1.0	mg/L	SM18 3500-FE D	01/29/01	1029458
		Dilution Factor: 1		Analysis Time...: 21:06	Analyst ID.....: 0001351	
		Instrument ID...: W06		MS Run #.....: 1031256	MDL.....: 0.10	
Hexavalent Chromium	0.018 B	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 0001356	
		Instrument ID...: W06		MS Run #.....: 1031162	MDL.....: 0.010	
Nitrate as N	2.8	0.50	mg/L	MCAWW 300.0A	01/30/01	1031432
		Dilution Factor: 5		Analysis Time...: 11:31	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031214	MDL.....: 0.15	
Nitrite as N	ND G	0.50	mg/L	MCAWW 300.0A	01/30/01	1031430
		Dilution Factor: 5		Analysis Time...: 11:31	Analyst ID.....: 0612654	
		Instrument ID...: W01		MS Run #.....:	MDL.....: 0.15	
Sulfate	23.4	5.0	mg/L	MCAWW 300.0A	01/30/01	1031433
		Dilution Factor: 5		Analysis Time...: 11:31	Analyst ID.....: 061265	
		Instrument ID...: W01		MS Run #.....: 1031215	MDL.....: 1.0	
Total Alkalinity	242	4.0	mg/L	SM18 2320 B	01/30/01	1031248
		Dilution Factor: 1		Analysis Time...: 18:44	Analyst ID.....: 9999955	
		Instrument ID...: W04		MS Run #.....:	MDL.....: 1.0	
Total Organic Carbon (TOC)	8.7	1.0	mg/L	MCAWW 415.1	01/30/01	1031212
		Dilution Factor: 1		Analysis Time...: 00:00	Analyst ID.....: 061265	
		Instrument ID...: W08		MS Run #.....: 1031082	MDL.....: 0.40	

NOTE(S):

RL Reporting Limit

B Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

000059

JAN
6.4.05

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

General Chemistry

Lot-Sample #....: E1A290172-004 Work Order #....: DVAA3 Matrix.....: WATER
 Date Sampled...: 01/29/01 11:25 Date Received...: 01/29/01 17:35

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	156	5.0	mg/L	MCAWW 300.0A	01/30/01	1031426
		Dilution Factor: 5		Analysis Time...: 11:43	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031211	MDL.....: 1.0	
Ferrous Iron	0.14 B	1.0	mg/L	SM18 3500-FE D	01/29/01	1029458
		Dilution Factor: 1		Analysis Time...: 21:08	Analyst ID.....: 0001351	
		Instrument ID...: W06		MS Run #.....: 1031256	MDL.....: 0.10	
Hexavalent Chromium	0.037	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 20:56	Analyst ID.....: 0001356	
		Instrument ID...: W06		MS Run #.....: 1031162	MDL.....: 0.010	
Nitrate as N	5.2	0.50	mg/L	MCAWW 300.0A	01/30/01	1031432
		Dilution Factor: 5		Analysis Time...: 11:43	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031214	MDL.....: 0.15	
Nitrite as N	ND G	0.50	mg/L	MCAWW 300.0A	01/30/01	1031430
		Dilution Factor: 5		Analysis Time...: 11:43	Analyst ID.....: 0612654	
		Instrument ID...: W01		MS Run #.....:	MDL.....: 0.15	
Sulfate	83.3	5.0	mg/L	MCAWW 300.0A	01/30/01	1031433
		Dilution Factor: 5		Analysis Time...: 11:43	Analyst ID.....: 061265	
		Instrument ID...: W01		MS Run #.....: 1031215	MDL.....: 1.0	
Total Alkalinity	267	4.0	mg/L	SM18 2320 B	01/30/01	1031248
		Dilution Factor: 1		Analysis Time...: 18:54	Analyst ID.....: 9999955	
		Instrument ID...: W04		MS Run #.....:	MDL.....: 1.0	
Total Organic Carbon (TOC)	2.2 U	1.0	mg/L	MCAWW 415.1	01/31/01	1031283
		Dilution Factor: 1		Analysis Time...: 00:00	Analyst ID.....: 061265	
		Instrument ID...: W08		MS Run #.....: 1031118	MDL.....: 0.40	

NOTE(S) :

RL Reporting Limit

B Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

000060

A
6.4.07

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

General Chemistry

Lot-Sample #....: E1A290172-005 Work Order #....: DVAA5 Matrix.....: WATER
 Date Sampled...: 01/29/01 12:25 Date Received...: 01/29/01 17:35

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Chloride	300	10.0	mg/L	MCAWW 300.0A	01/30/01	1031426
		Dilution Factor: 10		Analysis Time...: 15:07	Analyst ID.....: 0612658	
		Instrument ID...: W01		MS Run #.....: 1031211	MDL.....: 2.0	
Ferrous Iron	2.3	1.0	mg/L	SM18 3500-FE D	01/29/01	1029458
		Dilution Factor: 1		Analysis Time...: 21:10	Analyst ID.....: 0001351	
		Instrument ID...: W06		MS Run #.....: 1031256	MDL.....: 0.10	
Hexavalent Chromium	0.031	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 20:58	Analyst ID.....: 0001356	
		Instrument ID...: W06		MS Run #.....: 1031162	MDL.....: 0.010	
Nitrate as N	5.2	0.50	mg/L	MCAWW 300.0A	01/30/01	1031432
		Dilution Factor: 5		Analysis Time...: 11:55	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031214	MDL.....: 0.15	
Nitrite as N	ND G	0.50	mg/L	MCAWW 300.0A	01/30/01	1031430
		Dilution Factor: 5		Analysis Time...: 11:55	Analyst ID.....: 0612654	
		Instrument ID...: W01		MS Run #.....:	MDL.....: 0.15	
Sulfate	25.7	5.0	mg/L	MCAWW 300.0A	01/30/01	1031433
		Dilution Factor: 5		Analysis Time...: 11:55	Analyst ID.....: 0612655	
		Instrument ID...: W01		MS Run #.....: 1031215	MDL.....: 1.0	
Total Alkalinity	197	4.0	mg/L	SM18 2320 B	01/30/01	1031248
		Dilution Factor: 1		Analysis Time...: 19:04	Analyst ID.....: 9999955	
		Instrument ID...: W04		MS Run #.....:	MDL.....: 1.0	
Total Organic Carbon (TOC)	2.1	1.0	mg/L	MCAWW 415.1	01/31/01	1031283
		Dilution Factor: 1		Analysis Time...: 00:00	Analyst ID.....: 061265	
		Instrument ID...: W08		MS Run #.....: 1031118	MDL.....: 0.40	

NOTE (S) :

RL Reporting Limit

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

000061

Am
6/4/52

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

General Chemistry

Lot-Sample #....: E1A290172-006 Work Order #....: DVAA7 Matrix.....: WATER
 Date Sampled...: 01/29/01 14:10 Date Received...: 01/29/01 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	330	10.0	mg/L	MCAWW 300.0A	01/30/01	1031426
		Dilution Factor: 10		Analysis Time...: 15:19	Analyst ID.....: 0612658	
		Instrument ID...: W01		MS Run #.....: 1031211	MDL.....: 2.0	
Ferrous Iron	ND	1.0	mg/L	SM18 3500-FE D	01/29/01	1029458
		Dilution Factor: 1		Analysis Time...: 21:12	Analyst ID.....: 0001351	
		Instrument ID...: W06		MS Run #.....: 1031256	MDL.....: 0.10	
Hexavalent Chromium	ND	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 21:00	Analyst ID.....: 0001356	
		Instrument ID...: W06		MS Run #.....: 1031162	MDL.....: 0.010	
Nitrate as N	4.3	0.50	mg/L	MCAWW 300.0A	01/30/01	1031432
		Dilution Factor: 5		Analysis Time...: 12:31	Analyst ID.....: 0612652	
		Instrument ID...: W01		MS Run #.....: 1031214	MDL.....: 0.15	
Nitrite as N	ND G	0.50	mg/L	MCAWW 300.0A	01/30/01	1031430
		Dilution Factor: 5		Analysis Time...: 12:31	Analyst ID.....: 0612654	
		Instrument ID...: W01		MS Run #.....:	MDL.....: 0.15	
Sulfate	29.5	5.0	mg/L	MCAWW 300.0A	01/30/01	1031433
		Dilution Factor: 5		Analysis Time...: 12:31	Analyst ID.....: 061265	
		Instrument ID...: W01		MS Run #.....: 1031215	MDL.....: 1.0	
Total Alkalinity	488	4.0	mg/L	SM18 2320 B	01/30/01	1031248
		Dilution Factor: 1		Analysis Time...: 19:17	Analyst ID.....: 9999955	
		Instrument ID...: W04		MS Run #.....:	MDL.....: 1.0	
Total Organic Carbon (TOC)	3.6	1.0	mg/L	MCAWW 415.1	01/31/01	1031283
		Dilution Factor: 1		Analysis Time...: 00:00	Analyst ID.....: 061265	
		Instrument ID...: W08		MS Run #.....: 1031118	MDL.....: 0.40	

NOTE(S):

RL Reporting Limit

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

A
1-4-07

000062

TAIT ENVIRONMENTAL

Client Sample ID: WCC_11S_W_012901

General Chemistry

Lot-Sample #....: E1A290172-007 Work Order #....: DVAA9 Matrix.....: WATER
 Date Sampled....: 01/29/01 08:45 Date Received...: 01/29/01 17:35

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Hexavalent Chromium	0.013 B	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 21:02	Analyst ID.....: 0001358	
		Instrument ID...: W06		MS Run #.....: 1031162	MDL.....: 0.010	

NOTE(S) :

RL Reporting Limit

B Estimated result. Result is less than RL.

000063

A
64N

TAIT ENVIRONMENTAL

Client Sample ID: WCC_5S_W_012901

General Chemistry

Lot-Sample #....: E1A290172-008 Work Order #....: DVACD Matrix.....: WATER
 Date Sampled...: 01/29/01 09:45 Date Received...: 01/29/01 17:35

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Hexavalent Chromium	ND	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 21:04		Analyst ID.....: 0001352
		Instrument ID...: W06		MS Run #.....: 1031162		MDL.....: 0.010

000064

A
6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_1_W_012901

General Chemistry

Lot-Sample #...: E1A290172-009 Work Order #...: DVACE Matrix.....: WATER
Date Sampled...: 01/29/01 11:43 Date Received...: 01/29/01 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
					ANALYSIS DATE	BATCH #
Hexavalent Chromium	0.027	0.020	mg/L	SW846 7196A	01/29/01	1030508
		Dilution Factor: 1		Analysis Time...: 21:10		Analyst ID.....: 0001352
		Instrument ID...: W06		MS Run #.....: 1031162		MDL.....: 0.010

000065

A
6.451

LDC #: 6395B6
SDG #: E1A290172
Laboratory: Severn Trent Laboratories

VALIDATION COMPLETENESS WORKSHEET

Tier 2

Date: 5-11-01

Page: 1 of 1

Reviewer: A
2nd Reviewer: M

**METHOD: (Analyte) Alkalinity (SM2320), Chloride, Nitrate-N, Nitrite-N, Sulfate (EPA Method 300.0),
Ferrous Iron (SM3500), TOC (EPA Method 415.1), CRVI (EPA SW 846 Method 7196A)**

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 129-01
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	SW	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	SW	
IVb.	Laboratory control samples	A	LCS/LCS0
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	SW	(2, 3)
VIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

all

1	TMW-6-W-012901	11	TMW-6-W-012901MSD	21		31	
2	TMW-4-W-012901	12	TMW-3-W-012901MS	22		32	
3	TMW-4-D-012901	13	TMW-3-W-012901MSD	23		33	
4	TMW-3-W-012901	14	TMW-1-W-012901	24		34	
5	TMW-9-W-012901	15	PB	25		35	
6	XMW-09-W-012901	16		26		36	
7	WCC-11S-W-012901	17		27		37	
8	WCC-5S-W-012901	18		28		38	
9	TMW-1-W-012901	19		29		39	
10	TMW-6-W-012901MS	20		30		40	

Notes:

LDC #: 639536
SDG #: F21A29,112

VALIDATION FINDINGS WORKSHEET

Sample Specific Analysis Reference

Page: _____ of /
Reviewer: _____
2nd reviewer: W

All circled methods are applicable to each sample.

Comments:

LDC #: 639586
SDG #: in A260172

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: Inorganics, Method 5: UV/Vis

BLANKS

Page: 1 of 1
Reviewer: ✓
2nd Reviewer: ✓

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
N N/A Were all samples associated with a given method blank?

NA Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

Conc. units: my ll

Associated Samples:

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一

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected. "1"

VALIDATION FINDINGS WORKSHEET

Matrix Sr → Analysis

LDC #: SDG #: ELANGOLI

METHOD: Inorganics, Method

Silk cult

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	Was a matrix spike analyzed for each matrix in this SDG?
Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Were matrix spike percent recoveries (%R) within the control limits of 75-125 (85-115% for Method 300.0)? If the sample concentration exceeded the spike

LEVEL IV ONLY: N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Matrix Spike ID	Matrix	Analyte	%R	Associated Samples	Classifications
	A12	C1 Fe, NV (O)	Nu m PKPRMTHW	1-6	MJ MR 10	

Comments:

LDC #: 635544
SDG #: 1029072

VALIDATION FINDINGS WORKSHEET

Duplicate Analysis

METHOD: Inorganics, Method Szieg C Witz

Page: _____
Reviewer: _____
2nd Reviewer: _____

Please see qual
 N/A

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a duplicate sample analyzed for each matrix in this SDG?
Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water and $\leq 35\%$ for soil samples ($\leq 10\%$ for Method 300.0)? If no, see qualification below. A control limit of $\pm CRDL$ ($\pm 2X CRDL$ for soil) was used for samples that were $\leq 5X$ the CRDL, including when only one of the duplicate sample values were $\leq 5X$ the CRDL. If field blanks were used for laboratory duplicates, see overall assessment.

LEVEL IV ONLY:

Elemental Recovery Worksheet for Recalculations					
#	Duplicate ID	Matrix	Analyte	RPD (Limits)	Associated Samples
A4	C1	Na	Na	1-6	NOV 10
	Fe	Fe	Fe		
	Ni	Ni	Ni		
	SuY	SuY	SuY		
	FuZ	FuZ	FuZ		

Comments:

LDC #: 639586
SDG #: 61A240172

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: h
2nd reviewer: WY

MR 'OD: Inorganics, Method SAR CURRY

N/A
 N/A

Were field duplicate pairs identified in this SDG?
Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (<u>mg/l</u>)		RPD (Limits)	Qualifier
	<u>2</u>	<u>3</u>		
C1	369	381	3	
Cn ⁺ b	0.017	0.018	6	
MU3	2.7	2.8	4	
SO4	23.3	23.4	0.4	
ALK	244	242	0.4	

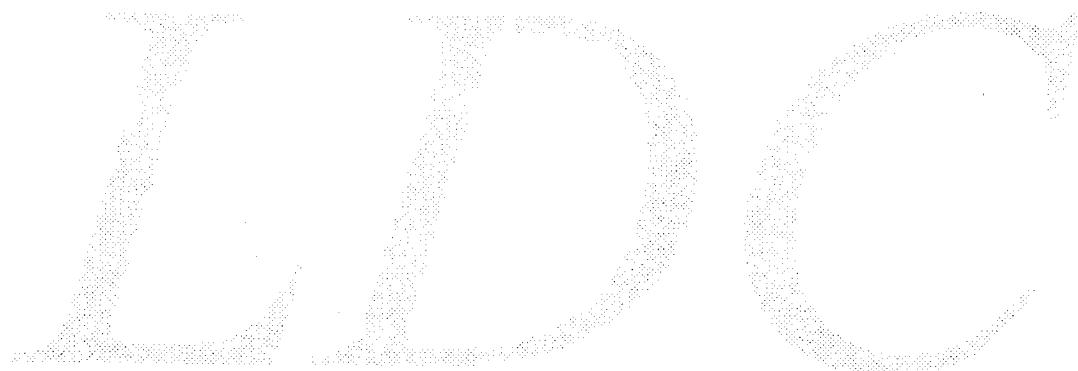
Analyte	Concentration ()		RPD (Limits)	Qualifier
	<u>CONC</u>			
TUL	4.7	8.7	60	

Analyte	Concentration ()		RPD (Limits)	Qualifier

Analyte	Concentration ()		RPD (Limits)	Qualifier

**Boeing C-6 Site
Data Validation Reports
LDC# 6395**

Hexavalent Chromium



Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing Redevelopment Corp., C-6 Site

Collection Date: January 19, 2001

LDC Report Date: May 11, 2001

Matrix: Water

Parameters: Hexavalent Chromium

Validation Level: Tier 3

Laboratory: Severn Trent Laboratories

Sample Delivery Group (SDG): E1A190286

Sample Identification

BL-2-W-011901

TMW-10-W-011901

WCC-95-W-011901

BL-2-W-011901MS

BL-2-W-011901MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7196 for Hexavalent Chromium.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VII.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodiles were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration were met.

b. Calibration verification

Calibration verification frequency and analysis criteria were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hexavalent chromium contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

b. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Sample Result Verification

All sample result verifications were within validation criteria.

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Field Blanks

No field blanks were identified in this SDG.

**Boeing Redevelopment Corp., C-6 Site
Hexavalent Chromium - Data Qualification Summary - SDG E1A190286**

No Sample Data Qualified in this SDG

**Boeing Redevelopment Corp., C-6 Site
Hexavalent Chromium - Laboratory Blank Data Qualification Summary - SDG
E1A190286**

No Sample Data Qualified in this SDG

TAIT ENVIRONMENTAL

Client Sample ID: BL-2-W-011901

General Chemistry

Lot-Sample #....: E1A190286-001 Work Order #....: DTXAL Matrix.....: WATER
 Date Sampled....: 01/19/01 10:40 Date Received...: 01/19/01 16:30

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
Hexavalent Chromium	0.012 B	0.020	mg/L	SW846 7196A	ANALYSIS DATE	BATCH #
					01/19/01	1022469
				Dilution Factor: 1	Analysis Time...: 21:34	Analyst ID.....: 000135
				Instrument ID...: W06	MS Run #.....: 1022269	MDL.....: 0.010

NOTE(S) :

RL Reporting Limit

B Estimated result. Result is less than RL.

*JW**6/1/01*

0 14

TAIT ENVIRONMENTAL

Client Sample ID: TMW-10-W-011901

General Chemistry

Lot-Sample #....: E1A190286-002 Work Order #....: DTXAQ Matrix.....: WATER
Date Sampled....: 01/19/01 11:40 Date Received...: 01/19/01 16:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
Hexavalent Chromium	0.023	0.020	mg/L	SW846 7196A	ANALYSIS DATE	BATCH #
				Dilution Factor: 1	01/19/01	1022469
				Instrument ID...: W06	Analysis Time...: 21:40	Analyst ID.....: 0001359
					MS Run #.....: 1022269	MDL.....: 0.010



0 15

TAIT ENVIRONMENTAL

Client Sample ID: WCC-95-W-011901

General Chemistry

Lot-Sample #....: E1A190286-003 Work Order #....: DTXAT Matrix.....: WATER
 Date Sampled....: 01/19/01 00:55 Date Received...: 01/19/01 16:30

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Hexavalent Chromium	0.018 B	0.020	mg/L	SW846 7196A	01/19/01	1022469
				Dilution Factor: 1	Analysis Time...: 21:42	Analyst ID.....: 0001359
				Instrument ID...: W06	MS Run #.....: 1022269	MDL.....: 0.010

NOTE(S) :

RL Reporting Limit

B Estimated result. Result is less than RL.



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LDC #: 6395A28
SDG #: E1A190286
Laboratory: Severn Trent Laboratories

VALIDATION COMPLETENESS WORKSHEET

X Tier 3

Date: 5-18-01

Page: 1 of 1

Reviewer: A

2nd Reviewer: WJ

..METHOD: Hexavalent chromium (EPA SW 846 Method 7196)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>1-19-01</u>
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/MSD
IVb.	Laboratory control samples	A	LCS
V.	Sample result verification	A	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

All ok

1	BL-2-W-011901	11		21		31	
2	TMW-10-W-011901	12		22		32	
3	WCC-95-W-011901	13		23		33	
4	<u>BL-2-W-011901MS</u>	14		24		34	
5	<u>BL-2-W-011901DUP</u>	15		25		35	
6	<u>MSD</u>	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 6355A24
SDG #: 914Kw26

VALIDATION FINDINGS WORKSHEET

Technical Holding Times

Page: 1 of 1
Reviewer: ✓
2nd reviewer: ✓

All circled dates have exceeded the technical holding time.

N N/A Were all samples preserved as applicable to each method ?
 N N/A Were all cooler temperatures within validation criteria?

LDC #: 6355022
SDG #: REL/19028

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1
Reviewer: J
2nd Reviewer: J

METHOD: Inorganics, Method _____

7A6

The correlation coefficient (r) for the calibration of C_a+6 was recalculated. Calibration date: 1-19-01

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100 \quad \text{Where, Found} = \text{concentration of each analyte measured in the analysis of the ICV or CCV solution}$$

True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte		(units)		(units)	Recalculated	Reported	Acceptable (Y/N)
Initial calibration	Blank		0		0.000		r or %R	
Calibration verification	Standard 1	C _a 10	0.01		0.009			
	Standard 2		0.012		0.018			
	Standard 3		0.015		0.016			
	Standard 4		0.1		0.094	0.9999		
	Standard 5							
	Standard 6							
	Standard 7							
Calibration verification	ICV		0.0494	0.0460	0.05	98.8	98.8	Y
Calibration verification	CCV		0.0483	0.0455	0.05	96.6	96.6	Y
Calibration verification								

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 1 - SAC
SDG #: 121A190086

VALIDATION FINI GS WORKSHEET Blanks

METHOD: Inorganics, Method

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Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N/A Were all samples associated with a given method blank?

N **N/A** Were all samples associated with a given method blank? **N** **N/A** Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below

Conc. units:

Associated Samples:

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

LDC #: 6395A28
SDG #: SE(A)190284

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates

Page: _____
Reviewer: _____
2nd Reviewer: _____

Page: _____
viewer:

viewer..

METHOD: Inorganics, EPA Method

7684

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Was a matrix spike analyzed for each matrix in this SDG? _____
Were matrix spike percent recoveries > 70%? _____

Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Q) N N/A Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water samples and $<35\%$ for soil samples? Of 4 or more, no action was taken.

LEVEL IV ONLY: Y N NA Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

Comments: _____

LDC #: 6395A28
SDG #: 121000284

VALIDATION FINDINGS WORKSHEET

Laboratory Com! Samples (LCS)

Page: 1 of 1
Re: er:
2nd Reviewer: WJ

METHOD: Inorganics, Method 7194

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

<u>N</u>	<u>N/A</u>	Was a laboratory control sample (LCS) analyzed for each matrix in this SDG?
<u>Y</u>	<u>N/A</u>	Were all LCS percent recoveries (%R) within the control limits of 80-120% (85-115% for Method 300.0)?
LEVEL IV ONLY:		
<u>N</u>	<u>N/A</u>	Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

Comments:

LDC #:6195A28
SDG #:MA19246

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: JG
2nd Reviewer: JK

METHOD: Inorganics, Method 7196

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

%R = Found / True × 100 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100 \quad \text{Where,} \quad S = \text{Original sample concentration}$$
$$D = \text{Duplicate sample concentration}$$

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated		Reported	Acceptable (Y/N)
					%R	RPD		
4/5	Laboratory control sample	Cu + Fe	0.0494	0.05	98.8	98.8	Y	Y
4	Matrix spike sample		0.0501	0.050	100.2	100	Y	Y
4/5	Duplicate sample		0.0501	0.0512	2.17	N.R	Y	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 6355928
SDG #: BLA 90286

Page: 1 of 1

VALIDATION FINDINGS WORKSHEET

<u>Sample Res</u>	<u>Verification</u>

METHOD: Inorganics, Method 7194

Comments:

LDC #: 6395A28
SDG #: 141 A 19W28b

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

Page: _____ of _____
Reviewer: _____
2nd reviewer: _____

METHOD: Inorganics, Method 7194

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N/A Qualifications below for all questions answered 'N'. Not applicable

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have results been reported and calculated correctly?
Are results within the calibrated range of the instruments?
Are all detection limits below the CRQL?

Compound (analyte) results for 2 reported with a positive detect were recalculated and verified using the following equation:

Concentration =

Recalculation:

from curve

Note: _____

LDC #: 6355028
SDG #: 516 228

VALIDATION FINDINGS WORKSHEET

Overall Asses. Int of Data

Overall Assessment of Data

Page: 1
Review: 2
2nd Reviewer: WYF

METHOD: Inorganics, Method

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

N/A Was the overall quality and usability of the data acceptable?

Comments:

DVR.6

LDC #: 6755A28
SDG #: 611190283

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JL
2nd reviewer: NY

METHOD: Inorganics, Method 7196

Y O N/A

Were field duplicate pairs identified in this SDG?

Y N N/A

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration ()		RPD (Limits)	Qualifier

Analyte	Concentration ()		RPD (Limits)	Qualifier

Analyte	Concentration ()		RPD (Limits)	Qualifier

Analyte	Concentration ()		RPD (Limits)	Qualifier

LDC #: 6355A28
SDG #: 61A190286

VALIDATION FINDINGS WORKSHEET

Field Blanks

Page: 1 of 1

Reviewer: L

2nd reviewer: ~~JK~~

M IOD: Inorganics, EPA Method 7194

N/A Were field blanks identified in this SDG?
 N/A Were target analytes detected in the field blanks?

Sample: _____ Field Blank / Trip Blank / Rinsate (circle one)

Sample: _____ **Field Blank / Trip Blank / Rinsate (circle one)**

**Boeing C-6 Site
Data Validation Reports
LDC# 6395**

Dissolved Metals



Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Boeing Redevelopment Corp., C-6 Site

Collection Date: January 29, 2001

LDC Report Date: May 12, 2001

Matrix: Water

Parameters: Dissolved Metals

Validation Level: Tier 2

Laboratory: Severn Trent Laboratories

Sample Delivery Group (SDG): E1A290172

Sample Identification

TMW-6-W-012901

TMW-4-W-012901

TMW-4-D-012901

TMW-3-W-012901

TMW-9-W-012901

XMW-09-W-012901

TMW-6-W-012901MS

TMW-6-W-012901MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010 and 7000 for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony	0.0049 mg/L	All samples in SDG E1A290172

Sample concentrations were compared to the maximum contaminant concentrations detected in the PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TMW-6-W-012901	Antimony	0.0080 mg/L	0.0080U mg/L
TMW-4-W-012901	Antimony	0.0056 mg/L	0.0056U mg/L
TMW-4-D-012901	Antimony	0.0023 mg/L	0.0023U mg/L
TMW-3-W-012901	Antimony	0.0051 mg/L	0.0051U mg/L
TMW-9-W-012901	Antimony	0.0048 mg/L	0.0048U mg/L
XMW-09-W-012901	Antimony	0.0044 mg/L	0.0044U mg/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

Sample result verification data were not reviewed for Tier 2.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples TMW-4-W-012901 and TMW-4-D-012901 were identified as field duplicates. No dissolved metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	TMW-4-W-012901	TMW-4-D-012901	
Antimony	0.0056	0.0023	84
Barium	0.26	0.76	98
Chromium	0.020	0.020	0
Selenium	0.0050U	0.0081	200
Vanadium	0.0014	0.0012	15
Zinc	0.052	0.22	123
Molybdenum	0.0034	0.040	169

XIV. Field Blanks

No field blanks were identified in this SDG.

Boeing Redevelopment Corp., C-6 Site
Dissolved Metals - Data Qualification Summary - SDG E1A290172

No Sample Data Qualified in this SDG

Boeing Redevelopment Corp., C-6 Site
Dissolved Metals - Laboratory Blank Data Qualification Summary - SDG E1A290172

SDG	Sample	Analyte	Modified Final Concentration	A or P
E1A290172	TMW-6-W-012901	Antimony	0.0080U mg/L	A
E1A290172	TMW-4-W-012901	Antimony	0.0056U mg/L	A
E1A290172	TMW-4-D-012901	Antimony	0.0023U mg/L	A
E1A290172	TMW-3-W-012901	Antimony	0.0051U mg/L	A
E1A290172	TMW-9-W-012901	Antimony	0.0048U mg/L	A
E1A290172	XMW-09-W-012901	Antimony	0.0044U mg/L	A

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-001
 Date Sampled....: 01/29/01 08:40 Date Received...: 01/29/01 17:35 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 1032399						
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AC
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	003119
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.080
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AD
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0040
Antimony	0.0080 B{J	0.060	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AE
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0020
Barium	0.70	0.020	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AF
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0010
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AG
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.00050
Chromium	0.021	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AH
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0010
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AJ
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.00050
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AK
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0020
Selenium	0.0098	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAX1AL
		Dilution Factor: 1		Analysis Time...: 14:14	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0040

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000066

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-001

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ORDER #
		LIMIT	UNITS					
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AM	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AN	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0010	
Copper	0.0054 B	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AP	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AQ	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AR	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 003119	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AT	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0050	
Vanadium	0.0012 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AU	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0010	
Zinc	0.29	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAAX1AV	
		Dilution Factor: 1			Analysis Time...: 14:14		Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.010	
Prep Batch #....:	1033406							
Mercury	ND	0.00020	mg/L		SW846 7470A	02/03/01	DVAAX1CG	
		Dilution Factor: 1			Analysis Time...: 15:50		Analyst ID.....: 0210887	
		Instrument ID...: M04			MS Run #.....: 1033204		MDL.....: 0.00010	

NOTE(S) :

B Estimated result. Result is less than RL.

000067

A
6/4/07

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-002

Date Sampled...: 01/29/01 10:00 Date Received..: 01/29/01 17:35

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 1032399						
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AN	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 003119	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.080	
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AP	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0040	
Antimony	0.0056 B <u>J</u>	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AQ	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0020	
Barium	0.26	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AR	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AT	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.00050	
Chromium	0.020	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AU	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0010	
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AV	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.00050	
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AW	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0020	
Selenium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA01AX	
		Dilution Factor: 1		Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0040	

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TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-002

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA01A0
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA01A1
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Copper	ND	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAA01A2
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0040	
Molybdenum	0.0034 B	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA01A3
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA01
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 003119	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA01A5
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0050	
Vanadium	0.0014 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA01A6
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Zinc	0.052	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAA01A7
		Dilution Factor: 1			Analysis Time...: 14:46	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.010	
Prep Batch #....: 1033406							
Mercury	ND	0.00020	mg/L		SW846 7470A	02/03/01	DVAA01CJ
		Dilution Factor: 1			Analysis Time...: 15:59	Analyst ID.....: 0210887	
		Instrument ID...: M04			MS Run #.....: 1033204	MDL.....: 0.00010	

NOTE (S) :

B Estimated result. Result is less than RL.

000072

Ar
6.4.57

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-003

Date Sampled....: 01/29/01 10:05 Date Received...: 01/29/01 17:35

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....:	1032399					
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AN	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 003119	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.080	
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AP	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0040	
Antimony	0.0023 B <u>J</u>	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AQ	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0020	
Barium	0.76	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AR	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AT	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.00050	
Chromium	0.020	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AU	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0010	
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AV	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.00050	
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AW	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0020	
Selenium	0.0081	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA11AX	
		Dilution Factor: 1		Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0040	

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6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

DISSOLVED Metals

Lot-Sample #...: E1A290172-003

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
		<u>LIMIT</u>	<u>UNITS</u>				
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA0
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA1
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Copper	ND	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA2
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA3
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA4
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA5
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0050	
Vanadium	0.0012 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA6
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Zinc	0.22	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAAllA7
		Dilution Factor: 1			Analysis Time...: 14:54	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.010	
Prep Batch #...: 1033406							
Mercury	ND	0.00020	mg/L		SW846 7470A	02/03/01	DVAAllCJ
		Dilution Factor: 1			Analysis Time...: 16:00	Analyst ID.....: 0210887	
		Instrument ID...: M04			MS Run #.....: 1033204	MDL.....: 0.00010	

NOTE(S) :

B Estimated result. Result is less than RL.

000077

A
6/4/91

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-004

Date Sampled....: 01/29/01 11:25 Date Received...: 01/29/01 17:35

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #....: 1032399							
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AN	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 003119	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.080	
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AP	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.0040	
Antimony	0.0051 B	0.060	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AQ	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.0020	
Barium	0.59	0.020	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AR	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AT	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.00050	
Chromium	0.018	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AU	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.0010	
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AV	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.00050	
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AW	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.00020	
Selenium	0.0047 B	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAA31AX	
		Dilution Factor: 1		Analysis Time...: 15:20		Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197		MDL.....: 0.00040	

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000081

A
6-4-10

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-004

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A0
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A1
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Copper	0.0051 B	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A2
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A3
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A7
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A5
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0050	
Vanadium	0.0023 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A6
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Zinc	0.22	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAA31A7
		Dilution Factor: 1			Analysis Time...: 15:20	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.010	
Prep Batch #....:	1033406						
Mercury	ND	0.00020	mg/L		SW846 7470A	02/03/01	DVAA31CJ
		Dilution Factor: 1			Analysis Time...: 16:02	Analyst ID.....: 0210887	
		Instrument ID...: M04			MS Run #.....: 1033204	MDL.....: 0.00010	

NOTE(S):

B Estimated result. Result is less than RL.

000082

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

DISSOLVED Metals

Lot-Sample #...: E1A290172-005

Date Sampled...: 01/29/01 12:25 Date Received...: 01/29/01 17:35

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...:	1032399					
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AN
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	003119
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.080
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AP
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0040
Antimony	0.0048 BU	0.060	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AQ
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0020
Barium	0.70	0.020	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AR
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0010
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AT
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.00050
Chromium	0.020	0.010	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AU
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0010
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AV
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.00050
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AW
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0020
Selenium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01	DVAAS1AX
		Dilution Factor: 1		Analysis Time...: 15:28	Analyst ID.....:	0031197
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....:	0.0040

(Continued on next page)

000086

A
6/1/01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-005

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A0
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A1
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Copper	ND	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A2
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0040	
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A3
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Nickel	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A4
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0030	
Thallium	0.0060 B	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A5
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0050	
Vanadium	0.0019 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A6
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.0010	
Zinc	0.17	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVAAS1A7
		Dilution Factor: 1			Analysis Time...: 15:28	Analyst ID.....: 0031197	
		Instrument ID...: M01			MS Run #.....: 1032197	MDL.....: 0.010	
Prep Batch #....: 1033406							
Mercury	ND	0.00020	mg/L		SW846 7470A	02/03/01	DVAAS1CJ
		Dilution Factor: 1			Analysis Time...: 16:04	Analyst ID.....: 0210887	
		Instrument ID...: M04			MS Run #.....: 1033204	MDL.....: 0.00010	

NOTE(S) :

B Estimated result. Result is less than RL.

000087

A
6/1/01

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-006

Matrix.....: WATER

Date Sampled....: 01/29/01 14:10 Date Received...: 01/29/01 17:35

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....:	1032399					
Aluminum	ND	0.20	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A1	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 003119	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.080	
Arsenic	ND	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A2	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0040	
Antimony	0.0044 B <u>U</u>	0.060	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A3	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0020	
Barium	1.0	0.020	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A4	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0010	
Cadmium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A5	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.00050	
Chromium	0.0013 B	0.010	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A6	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0010	
Beryllium	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A7	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.00050	
Lead	ND	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A8	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0020	
Selenium	0.0052	0.0050	mg/L	SW846 6010B	02/01-02/02/01 DVAA71A9	
		Dilution Factor: 1		Analysis Time...: 15:36	Analyst ID.....: 0031197	
		Instrument ID...: M01		MS Run #.....: 1032197	MDL.....: 0.0040	

(Continued on next page)

000091

6/4/01

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

DISSOLVED Metals

Lot-Sample #....: E1A290172-006

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Silver	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVA71AA
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0010
Cobalt	ND	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVA71AC
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0010
Copper	ND	0.025	mg/L		SW846 6010B	02/01-02/02/01	DVA71AD
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0040
Molybdenum	ND	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVA71AE
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0030
Nickel	0.013 B	0.040	mg/L		SW846 6010B	02/01-02/02/01	DVA71F
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0030
Thallium	ND	0.010	mg/L		SW846 6010B	02/01-02/02/01	DVA71AG
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0050
Vanadium	0.0012 B	0.050	mg/L		SW846 6010B	02/01-02/02/01	DVA71AH
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.0010
Zinc	0.30	0.020	mg/L		SW846 6010B	02/01-02/02/01	DVA71AJ
		Dilution Factor: 1			Analysis Time...: 15:36		Analyst ID.....: 0031197
		Instrument ID...: M01			MS Run #.....: 1032197		MDL.....: 0.010
Prep Batch #....:	1033406						
Mercury	ND	0.00020	mg/L		SW846 7470A	02/03/01	DVA71CL
		Dilution Factor: 1			Analysis Time...: 16:05		Analyst ID.....: 0210887
		Instrument ID...: M04			MS Run #.....: 1033204		MDL.....: 0.00010

NOTE(S):

B Estimated result. Result is less than RL.

000092

LDC #: 6395B14

VALIDATION COMPLETENESS WORKSHEET

SDG #: E1A290172

X Tier 2

Laboratory: Severn Trent Laboratories

Date: 5-11-01

Page: 1 of 1

Reviewer: A

2nd Reviewer: NY

METHOD: Dissolved Metals (EPA SW 846 Method 6010/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1-29-01
II.	Calibration	A	
III.	Blanks	S✓	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	A X	3 no ms / spk - not for mS/mSD
VI.	Duplicate Sample Analysis	A X	
VII.	Laboratory Control Samples (LCS)	A	LCS
VIII.	Internal Standard (ICP-MS)	N	3 NOT UTILIZED
IX.	Furnace Atomic Absorption QC	N	
X.	ICP Serial Dilution	N	NOT PROVIDED
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	S✓	(2, 3)
XIV.	Field Blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

AC AQ

1	TMW-6-W-012901	11		21		31	
2	TMW-4-W-012901	12		22		32	
3	TMW-4-D-012901	13		23		33	
4	TMW-3-W-012901	14		24		34	
5	TMW-9-W-012901	15		25		35	
6	XMW-09-W-012901	16		26		36	
7	TMW-6-W-012901MS	17		27		37	
8	TMW-6-W-012901MSD	18		28		38	
9	DB	19		29		39	
10		20		30		40	

Notes:

LDC #: 6395814
SDG #: 01A290172

VALIDATION FINDINGS WORKSHEET

Sample Specific Element Reference

Page: 1 of 1

Reviewer: 

2nd reviewer: ✓

All circled elements are applicable to each sample.

Comments: Mercury by CVAA if performed

LDC #: 617101
SDG #: 61A1200/172
METHOD: Tr^a
Sample Concentration units, unless otherwise noted: mg/L

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUANTIFIED SAMPLES

Page: _____
Reviewor: _____
2nd Rev: _____

Sample Identification									
Analyte	Maximum PB* (mg/kg)	Maximum Pb (mg/L)	Maximum ICB/CCB (ug/L)	Blank Action Limit	1	2	3	4	5
Al									
Sb	0.0049	0.0045	0.0080	0.0056	0.0023	0.0051	0.0048	0.0044	0.0030
As									
Ba									
Be									
Cd									
Ca									
Cr									
Co									
Cu									
Fe									
Pb									
Mg									
Mn									
Hg									
Ni									
K									
Se									
Ag									
Na									
Tl									
V									
Zn									
B									
Mo									
Sr									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 6395314
SDG #: R1A290172VALIDATION FINDINGS WORKSHEET
Field DuplicatesPage: 1 of 1
Reviewer: 2
2nd reviewer: WY

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Y	N	N/A
Y	N	N/A

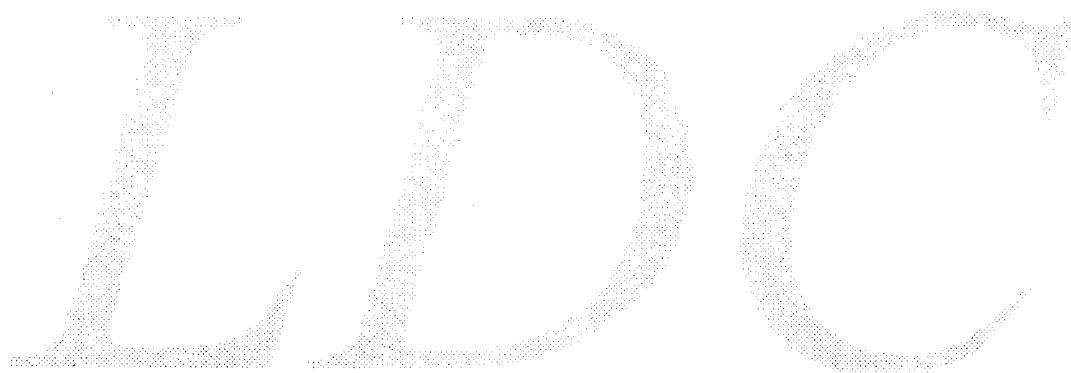
Were field duplicate pairs identified in this SDG?
 Were target analytes detected in the field duplicate pairs?

Analyte	Concentration ($\mu\text{g/L}$)		RPD (Limits)	Difference (Limits)	Qualifications
	2	3			
Aluminum					
Antimony	0.0056	0.0023	84		
Arsenic					
Barium	0.26	0.76	98		
Beryllium					
Cadmium					
Calcium					
Chromium	0.020	0.020	0		
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Mercury					
Nickel					
Potassium					
Selenium	0.00504	0.0081	200		
Silver					
Sodium					
Thallium					
Vanadium	0.0014	0.0012	15		
Zinc	0.052	0.22	123		
Cyanide					
Boron					
Molybdenum	0.0034	0.040	169		
Strontium					
Silicon					

Notes:

**Boeing C-6 Site
Data Validation Reports
LDC# 6395**

Methane-Ethane-Ethene



**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Boeing Redevelopment Corp., C-6 Site

Collection Date: January 29, 2001

LDC Report Date: May 16, 2001

Matrix: Water

Parameters: Methane, Ethane, & Ethene

Validation Level: Tier 2

Laboratory: Severn Trent Laboratories

Sample Delivery Group (SDG): E1A290172

Sample Identification

TMW-6-W-012901

TMW-4-W-012901

TMW-4-D-012901

TMW-3-W-012901

TMW-9-W-012901

XMW-09-W-012901

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Methane, Ethane, and Ethene.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 25.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No methane, ethane, or ethene contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Target compound identification (RT) data were not reviewed for Tier 2.

VI. Compound Quantitation and CRQLs

Compound quantitation and CRQLs were not reviewed for Tier 2.

VII. System Performance

System performance data were not reviewed for Tier 2.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Redevelopment Corp., C-6 Site
Methane, Ethane, & Ethene - Data Qualification Summary - SDG E1A290172

No Sample Data Qualified in this SDG

Boeing Redevelopment Corp., C-6 Site
Methane, Ethane, & Ethene - Laboratory Blank Data Qualification Summary - SDG E1A290172

No Sample Data Qualified in this SDG

TAIT ENVIRONMENTAL

Client Sample ID: TMW_6_W_012901

GC Volatiles

Lot-Sample #....: E1A290172-001 Work Order #....: DVAAX1CQ Matrix.....: WATER
Date Sampled...: 01/29/01 08:40 Date Received...: 01/29/01 17:35 MS Run #.....:
Prep Date.....: 02/01/01 Analysis Date...: 02/01/01
Prep Batch #....: 1032412 Analysis Time...: 11:07
Dilution Factor: 1
Analyst ID.....: 101605 Instrument ID...: GC1
Method.....: RSK SOP-175

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Methane	ND	0.0010	mg/L	0.00050
Ethane	ND	0.0020	mg/L	0.00020
Ethene	ND	0.0010	mg/L	0.00030

B

A
6-11-01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_W_012901

GC Volatiles

Lot-Sample #....: E1A290172-002 Work Order #....: DVAA01CT Matrix.....: WATER
Date Sampled....: 01/29/01 10:00 Date Received...: 01/29/01 17:35 MS Run #.....:
Prep Date.....: 02/01/01 Analysis Date...: 02/01/01
Prep Batch #....: 1032412 Analysis Time...: 11:38
Dilution Factor: 1
Analyst ID.....: 101605 Instrument ID...: GC1
Method.....: RSK SOP-175

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Methane	ND	0.0010	mg/L	0.00050
Ethane	ND	0.0020	mg/L	0.00020
Ethene	ND	0.0010	mg/L	0.00030

Am
6-11-01

TAIT ENVIRONMENTAL

Client Sample ID: TMW_4_D_012901

GC Volatiles

Lot-Sample #....: E1A290172-003 Work Order #....: DVAA11CT Matrix.....: WATER
Date Sampled....: 01/29/01 10:05 Date Received...: 01/29/01 17:35 MS Run #.....:
Prep Date.....: 02/01/01 Analysis Date...: 02/01/01
Prep Batch #....: 1032412 Analysis Time...: 12:01
Dilution Factor: 1
Analyst ID.....: 101605 Instrument ID...: GC1
Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Methane	ND	0.0010	mg/L	0.00050
Ethane	ND	0.0020	mg/L	0.00020
Ethene	ND	0.0010	mg/L	0.00030

*✓
6-4-01*

TAIT ENVIRONMENTAL

Client Sample ID: TMW_3_W_012901

GC Volatiles

Lot-Sample #....: E1A290172-004 Work Order #....: DVAA31CT Matrix.....: WATER
Date Sampled....: 01/29/01 11:25 Date Received...: 01/29/01 17:35 MS Run #.....:
Prep Date.....: 02/01/01 Analysis Date...: 02/01/01
Prep Batch #....: 1032412 Analysis Time...: 12:23
Dilution Factor: 1
Analyst ID.....: 101605 Instrument ID...: GC1
Method.....: RSK SOP-175

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Methane	ND	0.0010	mg/L	0.00050
Ethane	ND	0.0020	mg/L	0.00020
Ethene	ND	0.0010	mg/L	0.00030

000044

b.4(b)7

b.4(b)7

BOE-C6-0048656

TAIT ENVIRONMENTAL

Client Sample ID: TMW_9_W_012901

GC Volatiles

Lot-Sample #....: E1A290172-005 Work Order #....: DVAA51CT Matrix.....: WATER
Date Sampled....: 01/29/01 12:25 Date Received...: 01/29/01 17:35 MS Run #.....:
Prep Date.....: 02/01/01 Analysis Date...: 02/01/01
Prep Batch #....: 1032412 Analysis Time...: 12:46
Dilution Factor: 1
Analyst ID.....: 101605 Instrument ID...: GC1
Method.....: RSK SOP-175

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Methane	ND	0.0010	mg/L	0.00050
Ethane	ND	0.0020	mg/L	0.00020
Ethene	ND	0.0010	mg/L	0.00030

✓
b 4/51

TAIT ENVIRONMENTAL

Client Sample ID: XMW_09_W_012901

GC Volatiles

Lot-Sample #....: E1A290172-006 Work Order #....: DVAA71CV Matrix.....: WATER
Date Sampled....: 01/29/01 14:10 Date Received...: 01/29/01 17:35 MS Run #.....:
Prep Date.....: 02/01/01 Analysis Date...: 02/01/01
Prep Batch #....: 1032412 Analysis Time...: 13:08
Dilution Factor: 1
Analyst ID.....: 101605 Instrument ID...: GC1
Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Methane	ND	0.0010	mg/L	0.00050
Ethane	ND	0.0020	mg/L	0.00020
Ethene	ND	0.0010	mg/L	0.00030

000050

✓
6/4/01

LDC #: 6395B51
SDG #: E1A290172
Laboratory: Severn Trent Laboratories

VALIDATION COMPLETENESS WORKSHEET

X Tier 2

Date: 5/9/01

Page: 1 of 1

Reviewer: F7

2nd Reviewer: -

METHOD: GC Methane, Ethane & Ethene (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: <u>1/29/01</u>
IIa.	Initial calibration	A	% RSD \leq 25%
IIb.	Calibration verification	A	% D \leq 25%
III.	Blanks	A	
IVa.	Surrogate recovery	N	not required by method
IVb.	Matrix spike/Matrix spike duplicates	N	↓
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	TMW-6-W-012901	11		21		31	
2	TMW-4-W-012901	12		22		32	
3	TMW-4-D-012901	13		23		33	
4	TMW-3-W-012901	14		24		34	
5	TMW-9-W-012901	15		25		35	
6	XMW-09-W-012901	16		26		36	
7	M1B010000 - 412	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: